

State of Utah Traffic Records Strategic Plan for FFY2024



May 31, 2023

State Traffic Safety Information System Improvement

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Utah Traffic Records Coordinating Committee (UTRCC) Strategic Plan Endorsement

Representatives of the Utah Traffic Records Coordinating Committee have reviewed the Utah Traffic Information Systems Strategic Plan and endorse the plan.

Barbra Freeman

05/31/2023

Barbra Freeman, State Traffic Records Coordinator

Date

Traffic Records Program Manager

Utah Department of Public Safety, Highway Safety Office

Utah Traffic Records Strategic Plan

1. Executive Summary

The Utah Traffic Records Information Systems Strategic Plan serves as a guiding document for Utah's Traffic Records Coordinating Committee (UTRCC). This strategic plan provides a guide for Utah's traffic records information community to work towards increasing the timeliness, accuracy, completeness, integration, accessibility, and uniformity of Utah's traffic records data systems.

Utah's traffic records data systems include crash, citation/adjudication, vehicle, driver, roadway, and injury surveillance. Utah's traffic safety community uses data from these systems to provide the insight and analysis required to reduce motor vehicle crashes, injuries, and deaths.

The Utah traffic records strategic goals and related performance measures contained in this document are based upon the recommendations and findings from the NHTSA-sponsored traffic records assessment completed in May 2019.

Using the assessment results to drive discussions, the Utah TRCC held workshops to develop goals, strategies, and the expected improvement outcomes for each traffic records data system (see Section 4 of this document). The TRCC reviewed and responded to each assessment recommendation and will use the strategic goals to plan improvements to the traffic records data systems over the course of the next five plan years. During this process, the UTRCC members provided direction and feedback on the focus of the goals and objectives using their diverse expertise and experience in each of the traffic safety-related areas.

Progress during this plan year includes a substantial increase in crash data analysis capabilities. This increase was achieved by revising the State's crash report form and increasing its compliance to national crash data guidelines (e.g. Model Minimum Uniform Crash Criteria (MMUCC)).

The Utah TRCC's plans for next year include increasing the integration of Utah's crash and citation data via the Utah Transportation and Public Safety Crash Data Initiative (UTAPS-CDI) system. UTAPS-CDI currently integrates crash and roadway data. With the addition of citation data, the UTAPS-CDI will provide increased highway safety analysis capabilities to the Utah Highway Safety Office, the Utah Department of Transportation, and other highway safety analysts.

As with prior strategic plans, this plan will be reviewed by the UTRCC on an annual basis. Reviewing the plan annually provides an opportunity for committee members to revise project plans to better meet changes in organizational priorities, as well as any changes at the state or federal level.

Performance measures within this plan will be reviewed and updated annually to track performance of Utah's traffic records data systems. By doing so, the committee can ensure that data improvement projects are moving forward in a timely manner as prescribed by the State.

Any grant funds awarded under FAST Act, Section 405c shall be used to make quantifiable, measurable progress improvements in the accuracy, completeness, timeliness, uniformity, accessibility, or integration of data in a core highway safety database.

2. Mission & Vision Statements

2.1 Mission Statement

The Utah Traffic Records Coordinating Committee's mission is to bring together State agencies and highway safety stakeholders to encourage and coordinate improvements to the State's traffic records data systems.

These improvements will provide highway safety professionals the analysis they require to fulfill their mission of saving lives by changing behavior, so everyone on Utah's roadways arrives safely.

2.2 Vision Statement

The Utah Traffic Records Coordinating Committee's vision is to provide the highway safety community with advanced traffic records data systems that provide timely, accurate, and integrated analysis capabilities. The resulting analysis will enable the implementation of effective safety countermeasures that improve the safety of Utah's roadways.

3. Traffic Records Coordinating Committee

3.1 Traffic Records Improvement Program Coordinator

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Title: Traffic Records Program Manager

Agency: Utah Highway Safety Office

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3.2 TRCC Committee Members

Name / Title	Agency	System Represented
Felicia Alvarez <i>EMS Data Manager</i>	Utah Department of Health and Human Services, EMS	EMS
Paul Barron <i>Applications Services Manager</i>	Administrative Office of the Courts	Citation
Briana Bitner <i>FARS Analyst</i>	Utah Department of Public Safety, Highway Safety Office	Crash
David Blauer <i>Program Manager</i>	Federal Motor Carrier Administration	Vehicle
Chelsey Burns <i>IT Manager</i>	DTS, Public Safety	All
Christopher Caras <i>Director</i>	Utah Department of Public Safety, Driver License Division	Driver
Barbra Freeman <i>Traffic Records – Program Manager TRCC Coordinator</i>	Utah Department of Public Safety, Highway Safety Office	All
Chad Thompson <i>IT Director</i>	DTS Public Safety	All
Connie Collins <i>Crash Studies Analyst</i>	Utah Department of Transportation	Crash

Name / Title	Agency	System Represented
Larry Cook <i>Professor</i>	University of Utah, School of Medicine	Crash, Driver, EMS
Tara Zamora <i>Bureau Chief</i>	Utah Department of Public Safety, Driver License Division	Driver
Justin Brinton <i>IT Manager II</i>	DTS, Utah Tax Commission	Vehicle
Melanie Crittenden <i>Division Director</i>	Utah Communications Authority	All
Imer Desena <i>Data Architect/Program Manager</i>	University of Utah, College of Engineering	Crash, Driver, Roadway, Vehicle
Jeff Duncan <i>Health & Statistics Manager</i>	Utah Department of Health and Human Services	Roadway, Crash
Dave Tafoya <i>Manager</i>	Utah Department of Public Safety, Driver License Division	Driver
David Garcia <i>Division Administrator</i>	Federal Motor Carrier Administration	Vehicle
Hannah Gaskill <i>Records Manager/Analyst</i>	Weber County Sheriff's Office	Crash, Citation, Driver, Vehicle
Jeff Lewis <i>Safety Programs Engineer</i>	Utah Department of Transportation	Crash, Roadway
Suyanka Neupaney <i>Data & Safety Manager</i>	Utah Department of Transportation	Crash, Roadway
Rick Martin <i>Application Developer</i>	Administrative Office of the Courts	Citation
Juan Medina <i>Research Analyst Professor</i>	University of Utah, College of Engineering	Crash, Driver, Roadway, Vehicle
Robert Miles <i>Director</i>	Utah Department of Transportation	Roadway
Gary Mower <i>Assistant Program Manager</i>	Utah Department of Health and Human Services, Violence & Injury Prevention Program	Driver, EMS
Eric Neemann <i>GIS Analyst</i>	DTS, UGRC/GIS	Crash, Roadway

Name / Title	Agency	System Represented
Heather Marshall <i>Senior Data Analyst</i>	Administrative Office of the Courts	Citation
Chad Sheppick <i>Director</i>	Utah Department of Transportation, Motor Carrier Division	Roadway, Vehicle
Carrie Silcox <i>Director</i>	Utah Department of Public Safety, Highway Safety Office	All
Matt Slawson <i>Chief Forensic Toxicologist</i>	Utah Department of Health, Toxicology	Driver, EMS
Roland Stanger <i>Safety and Operations Program Manager</i>	Federal Highway Administration	Roadway
Dave Cox <i>Safety and Operations Program Manager</i>	Federal Highway Administration	Roadway
Travis Trotta <i>Lieutenant</i>	Utah Department of Public Safety, Utah Highway Patrol	Crash, Citation, Driver, Vehicle
Angie Turner <i>Records Manager/Analyst</i>	Ogden City Police Department	Crash, Citation, Driver/Vehicle
Kathy Wilcox <i>Manager</i>	Utah Department of Public Safety, BCI	Crash Citation, Driver Vehicle
Greg Willmore <i>Bureau Chief</i>	Utah Department of Public Safety	Crash, Citation, Driver, Vehicle
Lauralee Blue <i>Supervisor</i>	Utah Department of Public Safety	Crash, Citation, Driver, Vehicle
Yukiko Yoneoka <i>EMS Data Analyst</i>	Utah Department of Health and Human Services, EMS	EMS
Lana Moser <i>Trama Regional Coordinator</i>	Utah Department of Health and Human Services, IICRC	EMS, Injury

3.3 Past TRCC Meetings

Utah held TRCC meetings on the following dates:

May 5th, 2022

August 4, 2022

November 3, 2022

January 26, 2023

May 4, 2023

3.4 Future TRCC Meeting Schedule

Future TRCC meetings are scheduled for the first Thursday of the month on a quarterly basis. The following dates are:

August 3, 2023

October 26, 2023

January 18, 2023

April 11, 2023

3.5 NHTSA Traffic Records Assessment

The State completed a NHTSA Traffic Records Assessment on May 17, 2019. The State's responses to the recommendations are listed in Section 4. The related performance measures and goals are also listed in Section 4.

4. Traffic Records Strategic Plan

4.1 Utah Traffic Records Coordinating Committee (UTRCC)

4.1.1 TRCC Overview

The Utah Department of Public Safety, Highway Safety Office sponsors the Utah Traffic Records Coordinating Committee (UTRCC). The UTRCC is a multidisciplinary, interagency committee with membership from all six core traffic records data systems—crash, driver, vehicle, roadway, citation and adjudication, and injury surveillance.

The UTRCC is organized into three levels that include executive, technical, and working group members. The UTRCC has workgroups that are staffed by subject matter experts organized to address specific technical issues or lead traffic records improvement projects.

The UTRCC Technical Committee Chair and Coordinator is a representative of the Highway Safety Office. The committee is empowered to prepare and implement the Utah Traffic Safety Information Systems Strategic Plan. UTRCC meetings include open and candid discussions between the custodial agencies and State safety stakeholders.

The UTRCC's mission is to provide more timely, accurate, complete, uniform, integrated, and accessible data to the Utah traffic safety community. The UTRCC members represent stakeholders from the following areas:

- Highway safety
- Highway infrastructure
- State and Local Law enforcement
- Courts
- Public health and injury control
- Motor carrier agencies and organizations
- Drivers License
- Motor Vehicle
- Research organizations

The role and function of the UTRCC is:

- The UTRCC provides coordination amongst the various state agencies and stakeholders to develop, implement, and monitor improvements to the State's traffic records data systems.
- Review and approve the Utah Traffic Records Safety Information Systems Strategic Plan.
- Consider and coordinate the views of organizations in Utah that are involved in the administration, collection, and use of the highway safety data and traffic records system.

- Represent the interests of the agencies and organizations within the traffic records system to outside organizations.
- Review and evaluate new technologies to keep Utah's traffic records systems up to date.
- Promote the importance of technical assistance and training of traffic records data systems.

The UTRCC has been successful in supporting the development, monitoring, and reporting of performance measures for the crash, roadway, driver, vehicle, citation and adjudication, and injury surveillance systems. The UTRCC encourages individual data system managers to implement performance measures for their respective systems and report those measures to the UTRCC.

4.1.2 Recommendations for Traffic Records Coordinating Committee Management from the NHTSA Assessment

There were no Traffic Records Coordinating Committee Management recommendations from the Utah's Traffic Records Assessment that was conducted on May 17, 2019.

4.1.3 Goals for TRCC

TRCC Goal 1. Develop performance measures to improve the timeliness, accuracy, completeness, uniformity, integration, and accessibility of the State's traffic records data.

Strategy: Develop performance measures for each traffic records data system that identifies areas where timeliness, accuracy, completeness, uniformity, integration, and accessibility can be improved.

Outcome: By tracking system performance using NHTSA-defined performance measures, data system managers can track the data quality and performance of their data systems.

Activity: Ongoing- Progress has been made in increasing the number of performance measures.

TRCC Goal 2: Develop a Utah Traffic Records Inventory document.

Strategy: The TRCC will sponsor a project to develop and maintain a Utah Traffic Records Inventory document that will facilitate the identification and linking of common data from the various traffic records data systems. The document will contain the data sources, system custodians, data elements and attributes, linkages, and data access policies. This document will be reviewed and updated annually to reflect data system updates and changes.

Outcome: One document that can be used by the various agencies and safety stakeholders as a reference when analyzing, designing, or updating the traffic records component data systems and analysis capabilities.

Activity: Completed

TRCC Goal 3: Conduct a technical assistance and training needs assessment for traffic records data system users.

Strategy: At least once per annum, the TRCC will include an agenda item and host a discussion on traffic records data system training needs. This discussion will identify training and technical assistance needs. Additionally, a Technical Assistance and Training section will be added to the Traffic Records Strategic Plan.

Outcome: A better understanding of existing training resources can be used to develop improvements to training and technical assistance. These improvements will result in increased quality of highway safety analysis source data.

Activity: Ongoing.

TRCC Goal 4: The TRCC will investigate the requirements for a Data Quality Control program for traffic records data systems.

Strategy: The TRCC will provide a framework for discussions on implementing data quality control programs for each data system with the objective of improving data across quantitative and qualitative dimensions. The TRCC will investigate requesting a NHTSA Go Team to assist in developing a Data Quality Control Program for the State's traffic records data systems.

Outcome: Improved timeliness, accuracy, uniformity, accessibility, integration, and completeness of the traffic records data systems.

Activity: Ongoing.

4.1.4 Strategic Planning Overview

The Utah TRCC prioritizes its projects and works with other federal agencies to increase data sharing. The State works with State and local agencies to improve traffic records systems and training of staff on those systems.

4.1.5 Recommendations for Strategic Planning from the NHTSA Assessment

There were no Strategic Planning recommendations from the Utah's Traffic Records Assessment that was conducted on May 17, 2019.

4.1.6 Goals for Strategic Planning

Strategic Planning Goal 1: Include the project selection and prioritization methodology within the traffic records strategic plan.

Strategy: The UTRCC will document the project selection and prioritization method used within the traffic records strategic plan.

Outcome: The project selection and prioritization methodology will be formalized and documented within the traffic records strategic plan.

Activity: Planned.

Strategic Planning Goal 2: The UTRCC will solicit lifecycle costs and plans as part of the project submission process.

Strategy: The UTRCC will consider lifecycle costs during the project selection and prioritization process and these costs within the traffic records strategic plan.

Outcome: The costs of data improvement projects' lifecycle maintenance will be accounted for to ensure the traffic records system continues to function even in the absence of Federal grant funds.

Activity: Planned

4.2 Utah Traffic Records Data Systems Overview

The Utah Traffic Records Data system is comprised of various discrete data systems. These individual data systems span the driver, vehicle, citation/adjudication, crash, roadway, and several injury surveillance data sets (Pre-Hospital, Emergency Department, Hospital Discharge, Trauma Registry, and Vital Records).

Additionally, Utah has a traffic records data warehouse that draws from several of these data systems to centrally house and integrate various data sets into a combined traffic records data set that provides enhanced analysis capabilities to highway safety analysts.

The following table details each system along with any applicable comments

Data System	System Name	Host Agency	Remarks
Traffic Records Warehouse	UTAPS	University of Utah	Includes Crash, Citation, Roadway
Driver	Driver License Database	Department of Public Safety, Driver License Division	
Vehicle	Vehicle and Dealers Registration System (VADRS)	State Tax Commission and Department of Technology Services	
Citation	Traffic	Department of Public Safety	Law Enforcement System
Citation (Adjudication)	Courts Information System (CORIS)	Administrative Office of the Courts	Courts System
Crash	Traffic	Department of Public Safety	Law Enforcement System
Roadway	UTRANS/ARNOLD	Department of Transportation	
Pre-Hospital Data System (EMS)	Elite	Utah Department of Health, Bureau of EMS and Preparedness	NEMSIS 3.4 compliant
Statewide Emergency Department Data System	Emergency Department Encounter Database	Utah Department of Health, Office of Health Care Statistics	

Data System	System Name	Host Agency	Remarks
Statewide Hospital Discharge Data System	Healthcare Facility Database	Office of Health Care Statistics, Utah Department of Health	
Trauma Registry	Utah Trauma Registry	Utah Department of Health, Bureau of EMS and Preparedness	National Trauma Data Standard (NTDS) compliant
Vital Records	SILVER	Department of Health, Office of Vital Records and Statistics	

4.2.1 Data Use & Integration Overview

Utah decision-makers have access to data and personnel to help them use the data from the individual data systems. The Utah Department of Public Safety, Highway Safety Office host online workbooks with crash statistics and dashboards that are available to highway safety stakeholders and the public. If additional information is needed, a request may be sent to the Traffic Records Program Manager.

The Traffic Records Strategic Plan includes details on data integration with the inclusion of performance measures and status updates. The UTAPS system integrates efforts to manage the crash data in the State for safety improvement purposes. The system integrates crash, roadway, and GIS datasets. Integration of Citation data within UTAPS is being implemented. UTAPS primary users are direct stakeholders (i.e. UHP, DPS, UDOT) and third-party users approved by the State.

The University of Utah has run a premier Crash Outcome Data Evaluation System (CODES) project for many years. Those analysts and statisticians are available to decision-makers and the public to fill applicable data sets.

There are interfaces between the crash-driver and crash-vehicle systems that allow for dynamic exchange of information through UCJIS. Crash and roadway data sets are linked at the Department of Transportation and in UTAPS. Projects are in progress to expand the roadway data set to include additional roadway attributes and asset data.

4.2.2 Recommendations for Data Use & Integration from the NHTSA Assessment

There were no Data Use & Integration recommendations from the Utah's Traffic Records Assessment that was conducted on May 17, 2019.

4.2.3 Goals for Data Use & Integration

Data Use & Integration Goal 1: The TRCC will encourage and facilitate discussions on improving Traffic Records data access, data security, and data integration.

Strategy: Add a section to the TRCC agendas to provide a discussion platform for data access, data security, and data integration efforts. The agencies responsible for each data system will provide updates on any related activities.

Outcome: The TRCC discussions will identify areas of improvement as it relates to data access, data security, and data integration.

Activity: The TRCC has experienced greater participation from traffic records stakeholders that has resulted in increased cooperation and discussions amongst the various data systems.

4.3 Crash Data System Plan

4.3.1 System Overview

The Utah Department of Public Safety has responsibility for the statewide law enforcement crash repository. This system collects crash reports statewide that are then transmitted to an analysis system at the University of Utah.

The Utah Transportation and Public Safety Crash Data Initiative (UTAPS-CDI) is a statewide crash analysis system managed by the University of Utah, Department of Civil and Environmental Engineering. UTAPS-CDI receives 100 percent of the State's crash reports nightly from the Department of Public Safety's crash system but does not receive Native American (i.e. Navajo Nation, Shiprock, and various other tribes) crash reports.

The Department of Public Safety's crash data collection system has a robust system of edit checks and/or validation specifications that help to ensure that the data coming into the system from the field are correct and complete. There are approximately 200 edit/validation checks that ensure accurate and complete entry of crash reports by officers in the field. The statewide crash repository includes further auditing features that provide cross-field validations. Data analysts have the ability to run agency-specific reports.

In CY2019, Utah updated the State crash form to increase MMUCC 5 compliance. Utah has developed a data dictionary (i.e. Utah Motor Vehicle Crash Report Data Dictionary) that is currently available on the Utah Highway Safety Office website. The State is also working to link the state crash data system with roadway and citation data systems to enhance data quality.

The State maintains a crash reporting manual and training materials. The data dictionary, user manual, and training materials are updated in coordination with crash form updates.

The Utah Highway Safety Office and the Utah Highway Patrol are responsible for crash report training in the State. The Highway Safety Office's Traffic Records Program Manager and the Fatality Analysis Reporting System (FARS) Data Analyst provide onsite and virtual training sessions to law enforcement agencies. These sessions are part of the data quality control and assurance process and instruct officers on the proper methods of completing a crash report. Additionally, the Utah Highway Patrol provides Intermediate and Advanced training to municipal, county, and state law enforcement.

Utah Department of Public Safety's Highway Safety Office (HSO) has a section of their website dedicated to Utah Crash Data and Statistics dashboards that provide help to visualize and share crash data with shareholders and the public. Each of these dashboards focuses on specific traffic safety factors and provides users with detailed, filterable information regarding each emphasis area.

The combination of UTAPS-CDI and the HSO Crash Data and Statistics dashboards provide highway safety stakeholders with the information they require to focus engineering and enforcement efforts in areas with the greatest crash risk.

4.3.2 Crash Recommendations from the NHTSA Assessment

The following crash recommendations are from Utah's Traffic Records Assessment conducted on May 17, 2019.

1. *Improve the data dictionary for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

See related Performance Measures:

- Section 5.1.17 Crash Uniformity – MMUCC 5
- Section 5.1.18 Driver Integration – Driver/Crash
- Section 5.1.19 Citation Integration – Citation/Crash
- Section 5.1.20 Roadway Integration – Roadway/Crash

See related Crash Goals 1 and 5 in Section 4.3.3.

2. *Improve the data quality control program for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

See related Performance Measures:

- Section 5.1.12 Crash Completeness – First Harmful Event (Unknown/Blanks)
- Section 5.1.13 Crash Completeness – Crash Severity (Unknown/Blanks)
- Section 5.1.14 Crash Completeness – Manner of Collision (Unknown/Blanks)

See related Crash Goal 15 in Section 4.3.3.

3. *Improve the interfaces with the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

See related Performance Measure:

See related Crash Goal 9 in Section 4.3.3 and Data Use & Integration Goal 1 in Section 4.2.3.

4. *Improve the procedures/process flows for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

See related Performance Measures:

- Section 5.1.1 Crash Timeliness – Received within 30 Days
- Section 5.1.4 Crash Timeliness – Crash Geolocation

4.3.3 Crash Goals

Crash Goal 1: Update the Crash data dictionary to be compliant with the latest Utah crash form.

Strategy: The Utah DPS, in coordination with the University of Utah, will develop a Crash data dictionary for the UTAPS-CDI crash statewide repository. This effort will use the MMUCC 5 based crash form as a reference for the development of the crash data dictionary.

Outcome: A data dictionary for the crash system that includes the variable names and definitions including characteristics, values, limitations, and exceptions. The data dictionary will provide detailed information about the contents of the crash dataset. This will provide a document that is consistently formatted and contains what is needed for others to understand and analyze the crash data.

Activity: Complete.

Crash Goal 2: Incorporate system edit checks and validation rules into the Crash data dictionary.

Strategy: The Utah DPS will incorporate system edit checks and validation rules into the Crash data dictionary for the crash statewide repository. This effort will document the existing edit checks and validation rules currently being used in the law enforcement data collection systems.

Outcome: A data dictionary for the crash system that includes all the business rules required for complete, uniform, and accurate crash data. This update to the data dictionary can be used as an authoritative source for system development, analysis, and training efforts.

Activity: Complete.

Crash Goal 3: Convene an annual TRCC Crash Form Working Group comprised of crash data system stakeholders to review crash form updates and identify other crash related improvements.

Strategy: In order to accommodate evolving crash analysis requirements, the TRCC will form a Crash Form Working group that will meet annually to review the current crash form and investigate crash form and system improvement opportunities.

Outcome: A crash form and data system that is compliant with the latest standards and is satisfying the analysis needs of the highway safety community.

Activity: Ongoing.

Crash Goal 4: Update the Crash Report Training Manual to reflect the current crash data collection data dictionary and data elements.

Strategy: Highway safety will perform a review of training materials and use the results of that review to update existing training materials.

Outcome: Updated training materials will ensure consistency among the State's crash system data dictionary, field data collection manual, coding manual, and crash report.

Activity: Complete.

Crash Goal 5: Update the State of Utah Fatality Analysis Reporting System Procedure Manual.

Strategy: The Highway Safety Office will perform a review and update the State of Utah Fatality Analysis Reporting System Procedure Manual every year in October.

Outcome: By performing periodic reviews and updates to the manual, the State will ensure that the procedures manual is kept consistent with evolving collection and reporting requirements.

Activity: Ongoing.

Crash Goal 6: Encourage Native American agencies to submit electronic crash data to the statewide crash repository.

Strategy: The DPS Task Force Native American liaison will discuss with Native American agencies regarding submission of crash report data to the statewide crash repository. UDOT will provide support in this effort and will assist in identifying limitations and constraints. The TRCC will encourage and assist Native American agencies in applying for federal funds to improve their crash data collection and submission process.

Outcome: A more complete and representative crash dataset that represents all statewide crashes.

Activity: Planned.

Crash Goal 7: Incorporate GIS layers or API endpoints within DPS Traffic and third-party vendor crash data collection modules.

Strategy: Highway Safety and UDOT will identify opportunities for incorporating State GIS layers (e.g. roadway layers) and/or endpoints (web service-based geolocation endpoints tied to the UDOT roadway network) within the DPS Traffic and third-party vendor crash modules.

Outcome: By incorporating location assignment using UDOT roadway data within the data collection modules, crash locations will be more accurate and complete.

Activity: Planned.

Crash Goal 8: The TRCC will investigate linkage of crash and citation data to enhance highway safety analysis.

Strategy: The TRCC will look for crash and citation linkage opportunities and discuss desired approaches to achieving this linkage.

Outcome: Linkage of crash and citation data will provide enhanced analysis capabilities that can be used for targeted enforcement and roadway improvements.

Activity: Ongoing.

Crash Goal 9: Develop an accuracy performance measure and target for crash geolocation assignments.

Strategy: Create a crash location accuracy performance measure and related target for the assigned crash geolocation values using the *NHTSA Model Performance Measures for State Traffic Records Systems*.

Outcome: A better understanding of the accuracy of the crash geolocation assignment process. This will identify where improvements can be realized and track performance of the geolocation process over time.

Activity: Ongoing.

Crash Goal 10: Develop a MMUCC uniformity performance measure and target for the crash data system.

Strategy: Using the NHTSA-sponsored Model Minimum Uniform Crash Criteria (MMUCC) mapping results, create a performance measure that tracks the uniformity of the Utah crash form to the MMUCC national crash data standard. Create a related target for this performance measure.

Outcome: Tracking the compliance level of the State's crash form to the national crash data standard can be used during future form revisions to add uniform data elements that enable valid statistical analysis.

Activity: Ongoing.

Crash Goal 11: UTAPS to provide performance metrics to law enforcement agencies.

Strategy: UTAPS will provide crash data performance metric feedback (e.g. timeliness, completeness) to agencies that submit crash data to the statewide crash database.

Outcome: Improved feedback to law enforcement agencies will allow them to identify root causes of submission delays and data quality issues.

Activity: Ongoing.

Crash Goal 12: The Highway Safety Office to provide feedback to law enforcement agencies on crash data narratives.

Strategy: The Traffic Records Team will provide crash data feedback (completeness of crash narratives) to agencies that submit crash data to the statewide crash database.

Outcome: Improved feedback to law enforcement agencies will allow them to improve all crash report narratives that are submitted to the statewide crash database.

Activity: Ongoing.

Crash Goal 13: Implement a process for sample-based audits of crash data.

Strategy: UDOT will develop and implement a process for sample-based crash data audits using UTAPS as the data source. At a minimum, these audits should occur on an annual basis.

Outcome: Periodic, independent sample-based audits of crash data can be used to identify opportunities for system or procedural improvements. They can also be used to generate new training content, update manuals, update validation rules, and prompt form revisions.

Activity: Ongoing.

Crash Goal 14: Provide annual Crash system data quality reports to the TRCC.

Strategy: UDOT and UTAPS will provide annual crash data system quality management updates to the TRCC.

Outcome: The TRCC and crash data stakeholders will be aware of data quality issues and can plan for improvements to address these issues.

Activity: Ongoing.

4.4 Vehicle Data System Plan

4.4.1 System Overview

The State of Utah Vehicle and Dealers Registration System (VADRS) is used to process vehicle titling and registration transactions and is administered by the Division of Motor Vehicles of the Utah State Tax Commission.

The majority of vehicle titling and registration transactions are conducted by tax commission clerks. VADRS terminals are used by tax commission employees to process transactions in real time. Data entered into VADRS is validated through field and logical edits as well as using third party vendor software to confirm Vehicle Identification Number (VIN) information. Non-compliant VINs are manually entered and matched against the MSO (manufacturer statement of origin) or out of state title. VADRS data elements and structures are defined in the VADRS data dictionary. VADRS users are provided training manuals to assist them in processing vehicle title and registration transactions.

The VADRS vehicle data system is not linked to the Driver License Division's Driver License Database.

Utah participates in the National Motor Vehicle Title Information System (NMVTIS) through real time queries while conducting vehicle title transactions. Utah title information is uploaded in real time to NMVTIS via a secure file transfer. Additionally, all vehicle title, title fixes and registration transactions are run through NCIC hourly. Vehicle title brands and brand history from other states are retained as a part of the Utah vehicle record.

Utah participates in PRISM for vehicles in the International Registration Program (IRP) by sending IRP records. PRISM sends back a record set of all targeted VINs and carriers. Vehicle information is available to law enforcement personnel to complete crash forms, citations, and motor carrier vehicle inspection reports via queries from either in-car data terminals or police communications facilities. Additionally, vehicle registration documents contain AAMVA PDF417 barcoded information allowing for rapid data collection by law enforcement equipped with barcode reading technology.

The Utah Division of Motor Vehicles maintains the VADRS Step by Step Manual User's Manual, the Motor Carrier Step by Step Manual, the IRP Self Plate Step by Step Manual, the MVP New Title/Registration Step by Step Manual, the DMV Policies and Procedures Manual and the Special Group Plate Guide.

These manuals document the collection, reporting, and posting procedures for registration, title, and title brand information.

VADRS incorporates functionality for receiving user feedback to identify problems and receive ideas for improvement, detecting high frequency errors to identify issues, and long-term trend analyses.

4.4.2 Vehicle Recommendations from the NHTSA Assessment

The following Vehicle recommendations are from the Utah's Traffic Records Assessment conducted on May 17, 2019.

1. *Improve the data quality control program for the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

Related Performance Measure: N/A

See related Vehicle Goal 3 in Section 4.4.3.

2. *Improve the interfaces with the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

See related Performance Measure in Section 5.1.3 Crash Timeliness – MCMIS.

See related Vehicle Goal 5 in Section 4.4.3.

4.4.3 Vehicle Goals

Vehicle Goal 1: Implement sample-based audits of all vehicle records.

Strategy: Currently, Utah Division of Motor Vehicles audits a random sample of third-party transactions; however, internal transactions are not audited. The TRCC recommends that all vehicle records are periodically audited.

Outcome: Data quality audits will ensure that procedures are being followed and that procedures cover all existing processes.

Activity: Planned.

Vehicle Goal 2: Provide annual Vehicle system data quality reports to the TRCC.

Strategy: Division of Motor Vehicles will provide annual vehicle data system quality management updates to the TRCC.

Outcome: The TRCC and vehicle data stakeholders will be aware of data quality issues and can plan for improvements to address these issues.

Activity: Ongoing.

Vehicle Goal 3: Develop a Vehicle Accuracy performance measure and target.

Strategy: Develop a Vehicle accuracy performance measure and related targets that track the accuracy of one or more of the following data elements: Vehicle Identification Number, Current registration status, Motor carrier name, Commercial or non-CMV Motor carrier ID, State of registration, Title brands, State of title.

Outcome: A better understanding of the accuracy of critical Vehicle data elements. This will identify where improvements can be realized and provide the ability to track performance of the Vehicle data system over time.

Activity: Ongoing.

Vehicle Goal 4: Develop a Vehicle Integration performance measure and target.

Strategy: Develop a Vehicle integration performance measure and related target that compares titled vehicles against the National Motor Vehicle Title Information System (NMVTIS). Title data is synchronized with NMVTIS every five years. NMVTIS provides an export of every Utah title in their system. Then, DMV compares the NMVTIS titles against VADRS titles and the discrepancies are counted and tracked.

Outcome: A better understanding of the integration between VADRS and NMVTIS title data sets. This will identify where improvements can be realized and provide the ability to track performance of the Vehicle data system over time.

Activity: Ongoing.

Vehicle Goal 5: Incorporate system auditing functionality within VADRS.

Strategy: Currently, system auditing is tracked via Excel spreadsheets, this effort will incorporate system auditing functionality directly within the VADRS system.

Outcome: Including system auditing directly within the VADRS system will increase the accessibility and use of system auditing.

Activity: Completed

4.5 Driver Data System Plan

4.5.1 System Overview

The Utah Department of Public Safety, Driver License Division developed and currently maintains the State's Driver License Database that complies with federal guidelines and contains records of commercial licenses. Exchanges of records and photographs with eligible entities take place according to NHTSA standards, incorporating the record from a previous State of licensure into its own driver history. Within the past two years, the Driver License Division has implemented the State Pointer Exchange Services (SPEXS) program that allows for easier transmission of driver's license data between states and allows for one driver, one license.

The driver system maintains licensed driver data including driver's license type (including commercial licenses), endorsements, restrictions, issuance dates, status, conviction history, DUI and drug arrests, crash involvement limited to cited incidents and instances of no insurance, and driver training history.

An interface exists between the Driver License Database and SPEXS, Problem Driver Pointer System (PDPS), Commercial Driver's License Information System (CDLIS), the Social Security Online Verification (SSOLV), and the Systematic Alien Verification for Entitlement (SAVE) systems. The Court's system provides all convictions (including DUI) electronically to the Driver License Database. Access to the driver data is provided to law enforcement via Utah Criminal Justice Information System (UCJIS). Courts may also access the driver data via UCJIS or it may be provided manually if requested via a certified record.

Utah is able to track DUI offenders; all DUI arrests are sent to the Driver License Database to be entered into the driver record. When a person is arrested an Administrative action can be performed prior to a conviction from the court. If the person is found guilty, the conviction is sent via electronic transfer to the Driver License Database. Arrests and convictions within the Driver License Database are retained on the driver history for 55 years in compliance with federal statutes. Arrests and convictions on the driver record sent to insurance companies, employers, and the driver will be provided a ten-year history. Other traffic infractions are limited to a three-year history.

Utah has developed external fraud prevention policies and procedures. Utah checks for anomalies by running demographic checks to ensure a driver does not possess multiple licenses within the Driver License Database.

Internal fraud prevention procedures include running reports of office and staff activities. The driver system limits user's permissions based on the user's role. The system enforces least privileged access to system functionality and data. The State provides an option to enforcement of data access policy violations with a Class B Misdemeanor.

4.5.2 Driver Recommendations from the NHTSA Assessment

The following Driver recommendations are from the Utah's Traffic Records Assessment conducted on May 17, 2019.

1. *Improve the data dictionary for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State does not plan to implement. There is no driver system data dictionary in and of itself. However, the Utah Driver Handbook explains all the items that would be in a data dictionary. Also, there are specific validation rules in the driver system application process.

2. *Improve the data quality control program for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State accepts recommendation.

Related Performance Measure: N/A

See related Driver Goal 2 in Section 4.5.3.

4.5.3 Driver Goals

Driver Goal 1: Develop process flow diagrams outlining key data process flows within the Driver License Database.

Strategy: Utah Department of Public Safety, Driver License Division will further develop process flow diagrams to cover established database and primary user groups or downstream data systems (i.e. examiners, issuance staff, law enforcement, courts, or authorized trusted parties).

Outcome: Process flow diagrams will be used to understand the need for and understanding of existing processes and will promote continuous improvement. The process flows can also identify redundant or unnecessary steps.

Activity: Ongoing.

Driver Goal 2: Implement a formal data quality program that incorporates sample-based audits and comparative and trend analyses against Driver data.

Strategy: The Utah Department of Public Safety, Driver License Division will expand upon and formalize their existing data quality processes. This effort will include documenting the roles, procedures, and periodicity related to the performance of sample-based audits and comparative and trend analyses of the Driver License Database.

Outcome: A formal data quality program will provide the information necessary to implement improvements to the collection, submission, processing, posting, and maintenance of driver data.

Activity: Ongoing.

4.6 Roadway Data System Plan

4.6.1 System Overview

The Utah Department of Transportation (UDOT) has a mature geospatial roadway data management system. The system supports the ability to map roadway data on all Utah public roads. In addition to the geospatial system, all public roads have a Linear Referencing System (LRS) using Federal Highway Administration's All Roads Network Of Linear-referenced Data (ARNOLD) that is maintained by UDOT. UDOT currently maintains a robust roadway data set for State maintained roadways and some critical data elements on non-State maintained federal-aid roads. The UDOT roadway system includes approximately 5,875 miles (12%) of the total centerline miles with 3,913 miles (8%) being non-State maintained federal-aid routes. The remaining 39,024 miles (80%) are local or other roads.

Utah is in the process of transitioning to the requirements of MAP-21, the Moving Ahead for Progress in the 21st Century Act. MAP 21 requires States to have a safety data system in place for all public roads that can be used to perform analyses supporting the strategic and performance-based goals in the Highway Safety Improvement Program (HSIP) and the Strategic Highway Safety Plan (SHSP) for all State public roads. MAP-21 also provides guidance on collecting a subset of the Model Inventory of Data Elements (MIRE). The data element subset identified by the Federal Highway Administration (FHWA) is referred to as the Fundamental Data Elements (FDE). The FDEs are the basic roadway data elements recommended to be collected and linked with crash data for analysis to identify safety problems and to make more effective safety countermeasure decisions for the Highway Safety Improvement Program.

Utah supports the UDOT Data Portal, the portal allows access to roadway data on those State maintained roads and non-State federal-aid roads. Information for the available data layers can be viewed and downloaded. Portal data provides roadway inventory, planning, and maintenance data and is used primarily by State and local governments and MPOs (municipal planning organizations). Authenticated and authorized users also have access to crash data tied to the roadway network.

Through a partnership with local agencies the State is working towards collecting all MIRE Fundamental Data Elements for all public roads by CY2023. Regional and local custodians do not currently provide roadway data to the UDOT database.

The Utah Geospatial Resource Center (UGRC), in partnership with UDOT, collects and maintains a dataset that combines GIS data from local, county, and other State and Federal agencies. UGRC maintains GIS mapping data that represents the statewide roads centerline dataset for Utah and other road and highway related data such as milepost locations, exit numbers and names, highway linear referencing system (LRS) routes, and label lines for dynamic rendering of highway shields. UGRC pulls data from the UTRANS shared editing database (staging data base) into the Statewide Geographic Information Database (SGID) where it is made publicly available. State and local governments, academic institutions, municipal planning organizations, and the public use this data for engineering, safety, elections, 911, and other various uses.

4.6.2 Roadway Recommendations from NHTSA Assessment

The following Roadway recommendations are from the Utah's Traffic Records Assessment dated May 17, 2019.

1. *Improve the guidelines for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

2. *Improve the data dictionary for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

See related Performance Measure in Section 5.1.17 Crash Uniformity – MMUCC 5.

See related Roadway Goal 5 in Section 4.6.3.

3. *Improve the data quality control program for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

See related Performance Measure in Section 5.1.15 Roadway Completeness – Missing Route/Milepost Data.

See related Roadway Goal 8 in Section 4.6.3.

4.6.3 Roadway Goals

Roadway Goal 1: Collect and maintain Linear Referencing System (LRS) data within the roadway data system for all Utah public roads.

Strategy: UDOT and the UGRC will collect and maintain LRS data for all Utah public roads.

Outcome: Improve the completeness of the State's roadway data system and enhance highway safety analysis capabilities.

Activity: Complete.

Roadway Goal 2: Collect and maintain the MIRE Fundamental Data Elements (FDE) within the roadway data system for all Utah public roads.

Strategy: Through a partnership with local agencies the State will collect all MIRE Fundamental Data Elements for all public roads by CY2023.

Outcome: Adding the MIRE FDEs to the State's roadway data system will improve the uniformity of the state's roadway data system to the MIRE FDE national data standard. Additionally, collecting MIRE FDEs for all Utah public roads will improve the completeness of the Utah roadway data system and therefore enhance highway safety analysis capabilities.

Activity: Maintenance on data is in progress.

Roadway Goal 3: Consolidate MIRE Fundamental Data Elements (FDE) data within UTRANS.

Strategy: UDOT will work with the UGRC to update the roadway network data model. UDOT and UGRC will work with cities and counties to maintain the FDEs within the roadway data system.

Outcome: Improve the completeness of the State's roadway data system and enhance highway safety analysis capabilities by consolidating the MIRE FDEs within the UTRANS roadway data system.

Activity: On-going effort. UDOT & UGRC has completed the collection of the FDEs within the roadway data system. UDOT is currently in the progress of migrating the data into UTRANS roadway data system.

Roadway Goal 4: UDOT will review proposed changes using MIRE data elements as the primary guide for implementation for future roadway data element additions or modifications.

Strategy: UDOT will incorporate a process for roadway data element changes where the MIRE data standard is used as the primary guide for data structure modifications.

Outcome: Using MIRE data elements as a guide when adding to or modifying existing roadway data elements will increase the uniformity of the state's roadway data system to the MIRE national data standard.

Activity: Ongoing.

Roadway Goal 5: Update the UGRC-maintained data dictionary to include the MIRE FDE data elements.

Strategy: UGRC and UDOT will update the data dictionary to include the MIRE FDEs during the process of adding the data elements into the UTRANS database.

Outcome: A well-documented roadway data system that includes an up-to-date definition for each data element that results in a consistent, uniform data set suitable for high quality safety analysis.

Activity: In Progress

Roadway Goal 6: Develop a timeliness performance measure and related target based on the NHTSA Model Performance Measures for a Roadway data system.

Strategy: UDOT will develop a timeliness performance measures and related target based on the NHTSA Model Performance Measures that will measure the average timeliness of Average Annual Daily Traffic (AADT) from date of collection to entry in the roadway data system.

Outcome: Improved understanding of the timeliness performance of the roadway data system and related processes.

Activity: Planned.

Roadway Goal 7: Develop a completeness performance measure and related target based on the NHTSA Model Performance Measures for a Roadway data system.

Strategy: UDOT will develop a roadway completeness performance measure and related target based on the NHTSA Model Performance Measures that will measure the percentage of records with no missing critical data elements or the percentage of records with unknowns or blanks in critical data elements where unknown is not an acceptable value.

Outcome: Improved understanding of the completeness of the roadway data system.

Activity: Ongoing- UDOT defines the federally mandated fundamental data elements (FDE) as critical data elements and has a goal to collect all of them by 2026 for 100% completeness. Chapter 6 section 1 of this document outlines our progress and plans in achieving this goal.

Roadway Goal 8: Provide annual roadway data quality management updates to the TRCC.

Strategy: Annually, present the latest roadway data system performance measures and results to the TRCC.

Outcome: Improved tracking and awareness of roadway data system performance.

Activity: Ongoing.

4.7 Citation/Adjudication Data System Plan

4.7.1 System Overview

The Courts Information System (CORIS) is the State of Utah's statewide citation and adjudication system for District and Justice Courts. CORIS is electronically connected to the Utah Department of Public Safety's Bureau of Criminal Identification (BCI) and Driver License Division (DLD). As represented in the ideal traffic records system, the BCI assigns all citation numbers.

Citation information is transmitted to CORIS, CORIS then posts final dispositions (up to and including the resolution of any appeals) to a shared database with the Department of Public Safety. DPS/BCI control how that information is shared with the Driver License Database (i.e. the driver data system) and Vehicle and Dealers Registration System (VADRS) (i.e. the vehicle database). The Utah Department of Public Safety receives a nightly update of cases dispositions from the administrative office of the courts, providing real time access to information on an individual's driving and criminal history. Citation and adjudication data are used for the prosecution of offenders and adjudication of cases, particularly where the history of the defendant would warrant an increase in the charge or sentence. Citation and adjudication data are utilized by the BCI for traffic safety program planning purposes.

The State of Utah's citation and adjudication system follows national data systems and guidelines to ensure compatibility and serve data management and exchange needs. DUI convictions and traffic-related felonies are reported according to Uniform Crime Reporting (UCR) guidelines. The system employs National Center for State Courts (NCSC) guidelines for court records. Data submitted via a web service from the Department of Public Safety to the courts for traffic citations filed electronically adheres to the NIEM Justice Domain guidelines.

The citation management web service data elements (utilized by all agencies in Utah and the court's case management system CORIS) are defined and documented by a data dictionary. The data dictionary is kept up to date with the most recent software release. The system's field data collection manuals, training materials, and corresponding reports are modified and updated in coordination with the data dictionary.

The State's court case management system, CORIS, is capable of distinguishing between the administrative handling of court payments in lieu of court appearances (non-mandatory appearances) and court appearances. Deferrals (pleas in abeyance) and dismissals are tracked by the court's case management system and passed to the driver history record to ensure subsequent repeat offenses are not viewed as first offenses. CORIS has processes for retaining, archiving, and purging citation records as defined and documented by the courts in the Judicial Council Code of Judicial Administration's retention schedule. CORIS includes BAC and drug testing results for impaired driving data tracking. CORIS interfaces with Public Safety for posting of dispositions, so that both the driver and vehicle systems will have dispositions posted to the driver and vehicle files for carrying out of administrative sanctions.

4.7.2 Citation/Adjudication Recommendations from the NHTSA Assessment

The following Citation/Adjudication recommendations are from the Utah's Traffic Records Assessment conducted on May 17, 2019.

1. *Improve the data quality control for the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

See related Performance Measure in Section 5.1.6 Citation Timeliness – Citations within 5 days.

See related TRCC Goal 4 in Section 4.1.3.

4.7.3 Citation/Adjudication Goals

Citation/Adjudication Goal 1: Data Dictionary - Document eCitation data fields populated through interfaces.

Strategy: The Administrative Office of the Courts will update the CORIS data dictionary to indicate fields that are updated via external data systems.

Outcome: Documenting the data elements in the CORIS database with links to external systems will provide a more complete picture of the source of data within the citation and adjudication system.

Activity: Ongoing

Citation/Adjudication Goal 2: Implement a MIDRIS-compliant Utah DUI tracking system.

Strategy: The TRCC will spearhead an effort to define the DUI tracking system requirements and work with Highway Safety to promote implementation of the system. The TRCC will seek input from DUI stakeholders including Driver License Division, prosecutors, law enforcement, BCI, Highway Safety, courts, and the Utah Department of Corrections, Adult Probation & Parole (AP&P).

Outcome: Charge and sentence offenders appropriately, based on their driving histories; Manage impaired driving cases from arrest through completion of court and administrative sanctions; Identify populations, trends, and problematic components of the overall impaired driving control system; Adequately gauge DWI trends and the effectiveness of a range of education, information, enforcement, legislative, and other countermeasures; Provide stakeholders with adequate and timely information to fulfill their responsibilities; Provide key decision-makers (law enforcement, DMV, prosecutors, judges, etc.) with adequate and

timely information to allow equitable imposition of charges and penalties; improve efficiency and reduce the administrative burden on system stakeholders.

Activity: Ongoing.

Citation/Adjudication Goal 3: Develop a timeliness performance measure and target for the CORIS citation data system.

Strategy: Create a timeliness performance measure for the CORIS citation data system and a related target using the *NHTSA Model Performance Measures for State Traffic Records Systems*.

Outcome: A better understanding of the timeliness of the CORIS citation data. This will identify where process bottlenecks occur so actions can be taken to improve the timeliness of citation data.

Activity: Planned.

Citation/Adjudication Goal 4: Develop a timeliness performance measure and target for the Department of Public Safety Traffic citation data.

Strategy: Create a timeliness performance measure for the law enforcement Traffic citation data system and a related target using the *NHTSA Model Performance Measures for State Traffic Records Systems*. Timeliness measure should report statewide averages and timeliness by reporting agency.

Outcome: A better understanding of the timeliness of the law enforcement Traffic citation data. This will identify where submission and process bottlenecks occur so actions can be taken to improve the timeliness of law enforcement citation data.

Activity: Ongoing.

Citation/Adjudication Goal 5: Develop a completeness performance measure and target for the Traffic citation data.

Strategy: Create a completeness performance measure for the law enforcement Traffic citation data system and a related target using the *NHTSA Model Performance Measures for State Traffic Records Systems*. The completeness measure should report statewide averages and completeness by reporting agency.

Outcome: A better understanding of the completeness of the law enforcement Traffic citation data. This will identify missing or incomplete data so improvements in training and/or validation can be implemented.

Activity: Ongoing.

Citation/Adjudication Goal 6: Implement geolocation functionality within the Traffic citation data system.

Strategy: Implement functionality with the Traffic citation data system to enable officers to geolocate citations using GPS and/or GIS technologies.

Outcome: Increased citation analysis capabilities allowing stakeholders to perform map-based and roadway-based queries of citation data.

Activity: Ongoing.

Citation/Adjudication Goal 7: Develop a geolocation completeness performance measure and target for the Traffic citation data system.

Strategy: Create a geolocation completeness performance measure for the law enforcement Traffic citation data system and a related target using the *NHTSA Model Performance Measures for State Traffic Records Systems*. The completeness measure should report geolocation completeness by reporting agency.

Outcome: A better understanding of the completeness of the geolocation data elements in the law enforcement Traffic citation data. This will identify missing or incomplete location data and provide the information necessary to track geolocation improvements in the Traffic citation data system.

Activity: Ongoing.

4.8 Injury Surveillance Data System Plan

4.8.1 System Overview

An ideal statewide Injury Surveillance System is minimally comprised of data from five core components: pre-hospital emergency medical services (EMS), trauma registry, emergency department, hospital discharge, and vital records. This data provides more detailed information on the nature and extent of injuries sustained in a motor vehicle crash than can be found in other components of the traffic records system. Consequently, this information is invaluable when determining the injury severity, costs, and clinical outcomes of the individuals involved.

Utah has all five major components of a traffic records injury surveillance system and the available data is accessible to both traffic safety stakeholders, as well as the public, through either aggregate summary tables or department approved data use agreements.

Pre-Hospital Data System

The Utah Department of Health and Human Services Office of EMS and Preparedness (OEMSP) manages the pre-hospital data collection system known as the ImageTrend-based Elite system. Paper reports are not accepted, per State rule, and the data collection is 100 percent electronic. The system is NEMSIS 3.4-compliant and the software system incorporates comprehensive edit checks and validations to ensure that the data falls within acceptable parameters. The State has developed performance measures and metrics for all six data quality categories and quality management reports are regularly shared with the Traffic Records Coordinating Committee (TRCC). There is a sound feedback loop between users and data collectors as well as performance reporting to submitting agencies from the State and processes are clearly documented. OEMSP anticipates being NEMSIS 3.5 compliant by January 2024.

There are approximately five different software systems submitting data to the statewide repository. All agencies have submitted data electronically to the repository. Provider submission requirements are defined as *“Emergency Medical Services Providers shall submit NEMSIS EMS incident data elements for each Patient Care Report in the format defined in the NEMSIS EMS DataSet, as follows: incidents occurring between the 1st and 15th of a calendar month shall be submitted no later than the last day of the same calendar month; incidents occurring between the 16th and last day of a calendar month shall be submitted no later than the 15th of the following calendar month”*. Most EMS providers report within the first week after the incident. OEMSP is working to change the reporting requirement to seven days before January 2024.

Statewide Emergency Department and Hospital Discharge Data Systems

The Utah Department of Health and Human Services Office of Health Care Statistics (OHCS) in the Center for Health Data and Informatics is the agency responsible for the statewide emergency department and hospital discharge data systems. These systems are managed by a third-party vendor, Mercer. All system-related documentation is available online for limited-use data files. For information related to the unlimited data files, authorization must be obtained by

OHCS. Feedback with regards to training and error correction between Mercer and the submitting hospitals is conducted to ensure that data is as accurate as possible. Aggregate data is available through the Utah Indicator-Based Information System for Public Health and the OHCS is planning to begin publishing annual reports again soon. Requests for the unlimited data set may be filled upon approval by the Department of Health Institutional Review Board.

Statewide Trauma Data System

The statewide trauma registry data system is managed by the Utah Department of Health and Human Services Office of EMS and Preparedness and is housed on the Clinical Data Management (CDM) by ESO platform. Data is collected for trauma cases from 100 percent of the State's acute care hospitals. There are three methods of data collection; some facilities submit data directly to the Statewide Trauma Registry, others submit through a web-based process directly to the registry, and the remainder are entered via a manual abstraction at the state. The trauma data are available to the public through annual reports; to the hospital registrars through an OLAP Trauma Cube, and to other hospital audiences through a Trauma Tableau Dashboard. Data quality is reviewed at the front-end by the ESO software provider and subsequently by the Intermountain Injury Control & Research Center at the University of Utah. The State has developed performance measures and metrics for all categories except completeness for the Strategic Plan. The State Trauma performance improvement and patient safety workgroup and the Trauma System Advisory Committee have built, reviewed, and approved Trauma System performance measures.

Feedback loops have been established between data managers and users and quarterly Trauma User Group meetings are used to discuss common issues and concerns.

Vital Records Data System

The Utah Department of Health and Human Services Office of Vital Records and Statistics (OVRs) is responsible for managing all vital statistics data including death certificates. Utah submits all data to the National Center for Health Statistics (NCHS) for quality review. Due to strict requirements from the NCHS, the State relies on that quality review to ensure that all State data conforms to standards. Therefore, all records are reviewed at the local health department, the OVRs, and the NCHS before being admitted to the State file. Aggregate data is available through the Utah Indicator-Based Information System for Public Health.

4.8.2 Injury Surveillance Recommendations from the NHTSA Assessment

The following Injury Surveillance recommendations are from the Utah's Traffic Records Assessment dated May 17, 2019.

- 1. Improve the applicable guidelines for the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

Related Performance Measure: N/A

2. *Improve the data quality control program for the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

See related Performance Measures:

- Section 5.1.8 Injury Surveillance Accuracy – Pre-Hospital
- Section 5.1.9 Injury Surveillance Accuracy – Trauma Registry
- Section 5.1.10 Injury Surveillance Accuracy – Emergency Room
- Section 5.1.11 Injury Surveillance Accuracy – Hospital Discharge
- Section 5.1.16 Injury Surveillance Uniformity – Pre-Hospital (NEMSIS)
- Section 5.1.17 Crash Uniformity – MMUCC 5

See related EMS/Injury Surveillance Goal 2 Section 4.8.3.

3. *Improve the interfaces with the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

State Accepts Recommendation.

See related Performance Measure in Section 5.1.21 Injury Surveillance Integration – Pre-Hospital/Trauma Registry.

See related EMS/Injury Surveillance Goal 1 in Section 4.8.3.

4.8.3 EMS/Injury Surveillance Goals

EMS/Injury Surveillance Goal 1: Develop an Integration performance measure and related target that counts the number of records linked between the emergency department, hospital discharge, vital records, trauma data, and EMS data using the Department of Health Master Person Index (DOHMPI).

Strategy: DHHS Informatics will develop an integration performance measure based on the NHTSA Model Performance Measures.

Outcome: Improved understanding of the integration of the State's injury surveillance system and related processes.

Activity: Planned.

EMS/Injury Surveillance Goal 2: Annually, the Injury Surveillance data system managers (i.e. emergency department, hospital discharge, trauma registry, EMS) will present data system performance and quality reports to the TRCC.

Strategy: The TRCC will schedule an annual review of Injury Surveillance data systems performance. The Injury Surveillance data system managers will present data system performance metrics to the TRCC.

Outcome: The TRCC members will have an increased understanding of the performance of the Injury Surveillance data systems. This will allow identification of data system performance issues and provide opportunities for improvement.

Activity: Planned.

EMS/Injury Surveillance Goal 3: Capture alcohol and drug toxicology results for DUI cases.

Strategy: The Utah Public Health Laboratory, Toxicology section and the Utah Highway Safety Office will develop a plan to capture alcohol and drug toxicology results for all DUI cases.

Outcome: Increased understanding and analysis of DUI-involved crashes.

Activity: Ongoing.

5. Progress

5.1 Traffic Records Performance Measures

5.1.1 Crash Timeliness – Received within 30 days

Label: C-T-2

Status of Improvement: Demonstrated Improvement

Related Project/System: Crash

Narrative

Utah will improve the Timeliness of the Crash system as measured in terms of:

The percentage of crash reports entered into the database within 30 days after the crash.

The result is an increase in timeliness of 7.91%. The target for the next period is 98%.

Measurements

Start Date	End Date	% Received within 30 days	Target (%)
January 1, 2015	December 31, 2015	96.35%	Not set
January 1, 2016	December 31, 2016	97.40%	Not set
January 1, 2017	December 31, 2017	97.40%	Not set
January 1, 2018	December 31, 2018	97.3%	Not set
April 1, 2019	March 31, 2020	90.68%	98%
April 1, 2020	March 31, 2021	91.78%	98%
April 1, 2021	March 31, 2022	89.09%	98%
April 1, 2022	March 31, 2023	97.0%	98%
April 1, 2023	March 31, 2024		

Supporting Materials (Backup)

Current

- Total records received: 68776
- Min time to submit: 0.0
- Max time to submit 335.8
- Average time to submit 6.6
- Median time to submit 3.1
- <=30 days to submit 66720 (97.0%)

Baseline (last year):

```
SELECT count(la.PS_CASE_NUMBER) AS total,
round(
  (
    sum(
      CASE
        WHEN (to_date(la.SUBMITTED_DTTIME) - to_date(la.OCCURRED_DTTIME)) <= 30
      THEN 1
        ELSE 0
        END
    ) / count(la.PS_CASE_NUMBER) *100
  )
,2) AS percentWithInTime
FROM traffic.LE_ACTIVITY la
WHERE SUBMITTED_DTTIME >= timestamp'2021-04-01 00:00:00'
AND SUBMITTED_DTTIME < timestamp'2022-04-01 00:00:00'

AND la.ACTIVITY_TYPE = 'A';
```

5.1.2 Crash Timeliness – FARS

Label: C-T-1

Status of Improvement: Demonstrated Improvement

Related Project/System: FARS

Narrative

Utah will improve the Timeliness of the Crash system as measured in terms of:

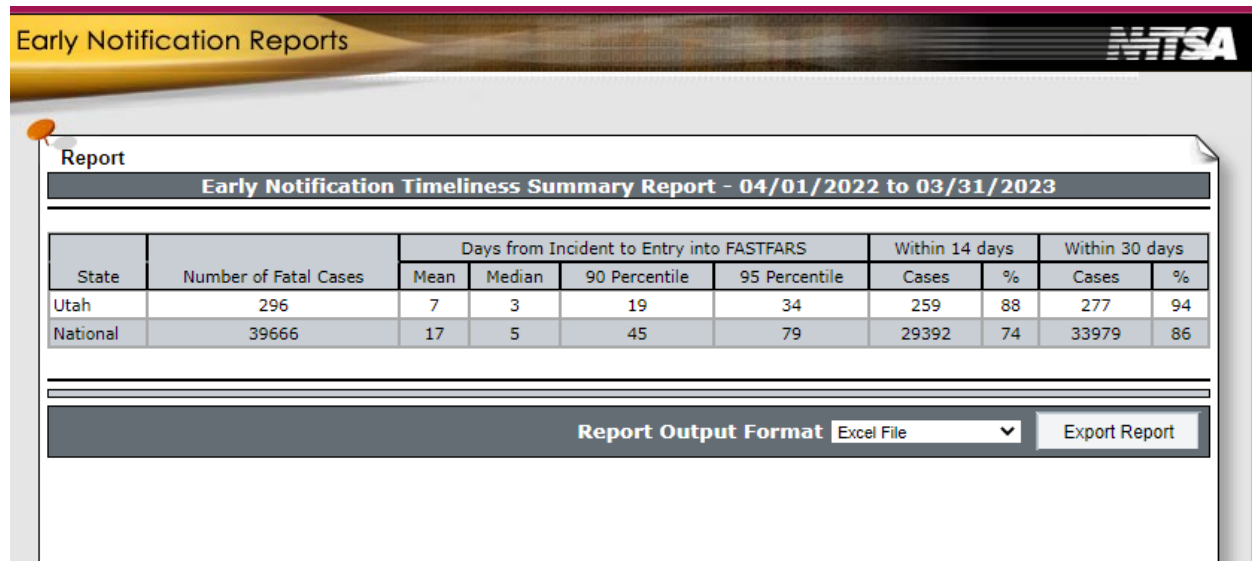
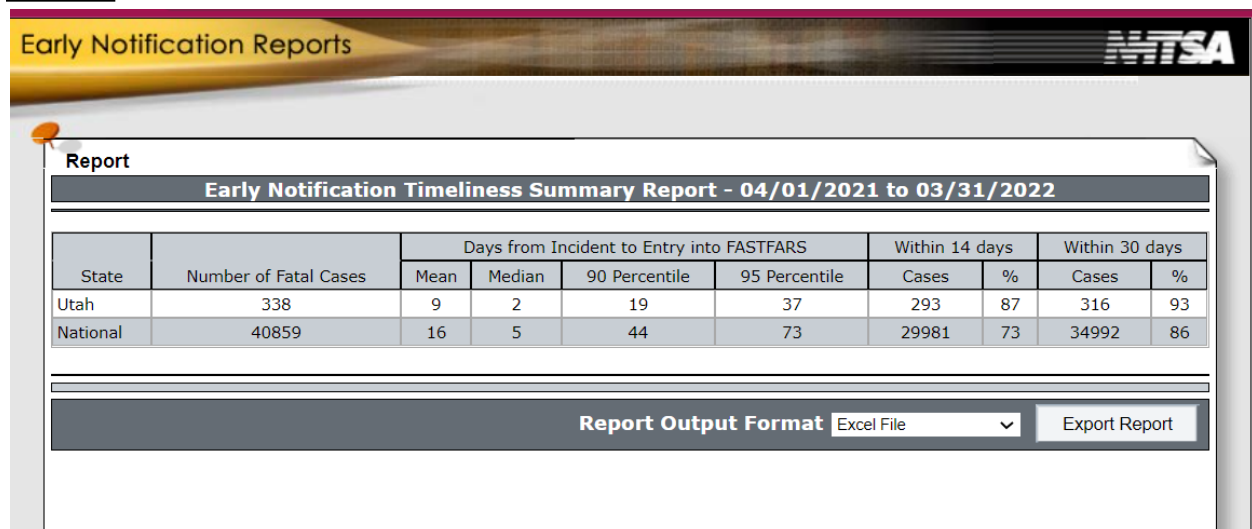
The mean number of days from the crash date to the date the fatal crash is initially entered into the FARS system.

The result is an increase in timeliness by 2 days. The target for the next period is 6 days.

Measurements

Start Date	End Date	Mean Number of Days	Target (days)
January 1, 2015	December 31, 2015	9	Not set
January 1, 2016	December 31, 2016	11	Not set
January 1, 2017	December 31, 2017	7	Not set
January 1, 2018	December 31, 2018	8	Not set
April 1, 2019	March 31, 2020	15	Not set
April 1, 2020	March 31, 2021	9	7
April 1, 2021	March 31, 2022	9	7
April 1, 2022	March 31, 2023	7	6
April 1, 2023	March 31, 2024		

Supporting Materials (Backup)

CurrentBaseline

5.1.3 Crash Timeliness – MCMIS

Label: C-T-1

Status of Improvement: Demonstrated Improvement

Related Project/System: MCMIS

Narrative

Utah will improve the Timeliness of the FMCSA Motor Carrier Management Information System (MCMIS) as measured in terms of:

The median number of days from the commercial vehicle crash date to the date of entry into the MCMIS database.

The result is an increase in timeliness of 16.05 days. The target for the next period is 20 days.

Measurements

Start Date	End Date	Median Number of Days	Target (days)
January 1, 2015	December 31, 2015	15	Not set
January 1, 2016	December 31, 2016	20	Not set
April 1, 2016	March 31, 2017	20	Not set
April 1, 2017	March 31, 2018	20	Not set
April 1, 2018	March 31, 2019	15	Not set
April 1, 2019	March 31, 2020	1080.95	Not set
April 1, 2020	March 31, 2021	109.12	75
April 1, 2021	March 31, 2022	38.11	35
April 1, 2022	March 31, 2023	22.06	20
April 1, 2023	March 31, 2024		

5.1.4 Crash Timeliness – Crash Geolocation

Label: C-T-1

Status of Improvement: Demonstrated Improvement

Related Project/System: FARS

Narrative

Utah will improve the Timeliness of crash geolocation assignments as measured in terms of:

The median days from the crash date to the date the crash has been geolocated in the statewide crash repository.

The result is an increase in timeliness of 3.7 days. The target for the next period is 6 days.

Measurements

Start Date	End Date	Median Number of Days	Target (days)
January 1, 2015	December 31, 2015	9	Not set
January 1, 2016	December 31, 2016	11	Not set
January 1, 2017	December 31, 2017	7	Not set
January 1, 2018	December 31, 2018	8	Not set
April 1, 2019	March 31, 2020	16.2	Not set
April 1, 2020	March 31, 2021	4.6	Not set
April 1, 2021	March 31, 2022	10.6	7.5
April 1, 2022	March 31, 2023	6.9	6
April 1, 2023	March 31, 2024		

Supporting Materials (Backup)

Current

Early Notification Timeliness by Jurisdiction - 04/01/2022 to 03/31/2023											
State	Jurisdiction	Number of Fatal Cases	Days from Incident to Entry into Early Notification					Within 14 Days		Within 30 Days	
			Max	Mean	Median	90 Percentile	95 Percentile	Cases	%	Cases	%
49	American Fork PD	1	19	19	19	19	19	0	0	1	100
49	Beaver County SO	1	9	9	9	9	9	1	100	1	100
49	Bluffdale PD	1	0	0	0	0	0	1	100	1	100
49	Bountiful PD	1	3	3	3	3	3	1	100	1	100
49	Box Elder County SO	3	4	3	4	4	4	3	100	3	100
49	Cache County SO	1	61	61	61	61	61	0	0	0	0
49	Carbon County SO	1	34	34	34	34	34	0	0	0	0
49	Cedar City PD	1	1	1	1	1	1	1	100	1	100
49	Centerville PD	1	8	8	8	8	8	1	100	1	100
49	Clearfield PD	2	31	16	17	31	31	1	50	1	50
49	DNR	6	73	30	20	38	73	1	17	4	67
49	Draper PD	3	11	5	5	11	11	3	100	3	100
49	Duchesne County SO	1	3	3	3	3	3	1	100	1	100
49	Emery County SO	2	3	2	3	3	3	2	100	2	100
49	Grand County SO	1	3	3	3	3	3	1	100	1	100
49	Heber PD	1	1	1	1	1	1	1	100	1	100
49	Herriman PD	3	4	2	2	4	4	3	100	3	100
49	Hurricane PD	1	4	4	4	4	4	1	100	1	100
49	Juab County SO	1	2	2	2	2	2	1	100	1	100
49	Kaysville PD	1	1	1	1	1	1	1	100	1	100
49	Layton PD	5	17	5	4	17	17	4	80	5	100
49	Lehi PD	4	9	5	5	9	9	4	100	4	100
49	Logan PD	5	22	9	3	22	22	3	60	5	100
49	Lone Peak PD	1	12	12	12	12	12	1	100	1	100
49	Millard County SO	2	9	7	7	9	9	2	100	2	100
49	Murray PD	5	29	11	6	29	29	4	80	5	100
49	Navajo PD	4	177	75	60	177	177	1	25	2	50
49	North Ogden PD	1	1	1	1	1	1	1	100	1	100
49	North Salt Lake PD	1	0	0	0	0	0	1	100	1	100
49	Ogden PD	8	157	24	5	17	157	6	75	7	88
49	Orem PD	4	29	10	5	29	29	3	75	4	100
49	Pleasant Grove PD	1	0	0	0	0	0	1	100	1	100
49	Provo PD	7	16	3	1	6	16	6	86	7	100
49	Rich County SO	1	9	9	9	9	9	1	100	1	100
49	Riverton PD	1	60	60	60	60	60	0	0	0	0
49	Roy PD	2	1	0	1	1	1	2	100	2	100
49	Salt Lake City PD	20	33	4	3	6	10	19	95	19	95
49	San Juan County SO	1	6	6	6	6	6	1	100	1	100
49	Sandy PD	7	65	12	3	10	65	6	86	6	86
49	Sanpete County SO	1	5	5	5	5	5	1	100	1	100
49	Saratoga Springs PD	1	0	0	0	0	0	1	100	1	100
49	South Jordan PD	1	2	2	2	2	2	1	100	1	100
49	South Ogden PD	2	2	2	2	2	2	2	100	2	100
49	South Salt Lake PD	3	5	4	5	5	5	3	100	3	100
49	Spanish Fork PD	2	4	2	3	4	4	2	100	2	100
49	Springville PD	1	7	7	7	7	7	1	100	1	100

Baseline

Report											
Early Notification Timeliness by Jurisdiction - 04/01/2021 to 03/31/2022											
State	Jurisdiction	Number of Fatal Cases	Days from Incident to Entry into Early Notification					Within 14 Days		Within 30 Days	
			Max	Mean	Median	90 Percentile	95 Percentile	Cases	%	Cases	%
49	-- Blank --	1	3	3	3	3	3	1	100	1	100
49	American Fork PD	4	27	12	10	27	27	2	50	4	100
49	Beaver County SO	1	3	3	3	3	3	1	100	1	100
49	Box Elder County SO	3	183	64	6	183	183	2	67	2	67
49	Brigham City PD	1	4	4	4	4	4	1	100	1	100
49	Carbon County SO	1	13	13	13	13	13	1	100	1	100
49	Cedar City PD	3	10	4	3	10	10	3	100	3	100
49	Clearfield PD	4	4	3	4	4	4	4	100	4	100
49	Cottonwood Heights PD	1	197	197	197	197	197	0	0	0	0
49	DNR	6	74	33	27	51	74	2	33	3	50
49	Draper PD	4	13	5	4	13	13	4	100	4	100
49	Duchesne County SO	3	23	16	16	23	23	1	33	3	100
49	Grand County SO	2	3	2	3	3	3	2	100	2	100
49	Iron County SO	3	3	2	3	3	3	3	100	3	100
49	Juab County SO	2	190	100	101	190	190	1	50	1	50
49	Kaysville PD	1	4	4	4	4	4	1	100	1	100
49	Layton PD	2	11	6	6	11	11	2	100	2	100
49	Lehi PD	6	8	4	4	7	8	6	100	6	100
49	Logan PD	3	1	0	1	1	1	3	100	3	100
49	Lone Peak PD	1	1	1	1	1	1	1	100	1	100
49	Mapleton PD	1	1	1	1	1	1	1	100	1	100
49	Murray PD	3	121	42	5	121	121	2	67	2	67
49	Navajo PD	1	84	84	84	84	84	0	0	0	0
49	North Park PD	1	6	6	6	6	6	1	100	1	100
49	North Salt Lake PD	1	3	3	3	3	3	1	100	1	100
49	Ogden PD	12	32	8	5	15	15	9	75	11	92
49	Orem PD	5	93	21	4	93	93	4	80	4	80
49	Park City PD	1	1	1	1	1	1	1	100	1	100
49	Provo PD	3	27	12	10	27	27	2	67	3	100
49	Riverton PD	3	3	1	1	3	3	3	100	3	100
49	Roosevelt PD	2	18	10	10	18	18	1	50	2	100
49	Roy PD	4	67	20	8	67	67	3	75	3	75
49	Salt Lake City PD	19	5	1	1	4	5	19	100	19	100
49	Sandy PD	3	23	12	14	23	23	2	67	3	100
49	Sanpete County SO	1	8	8	8	8	8	1	100	1	100
49	Saratoga Springs PD	2	2	2	2	2	2	2	100	2	100
49	Shiprock PD	1	24	24	24	24	24	0	0	1	100
49	SLCPD	2	5	4	4	5	5	2	100	2	100
49	So Salt Lake PD	1	11	11	11	11	11	1	100	1	100
49	South Jordan PD	3	2	1	1	2	2	3	100	3	100
49	South Salt Lake PD	1	4	4	4	4	4	1	100	1	100
49	Springville PD	1	17	17	17	17	17	0	0	1	100
49	St. George PD	7	37	10	3	25	37	5	71	6	86
49	Summit County SO	2	4	3	4	4	4	2	100	2	100
49	Sunset PD	1	1	1	1	1	1	1	100	1	100
49	Taylorsville PD	3	11	4	2	11	11	3	100	3	100
49	Tooele County SO	2	5	4	5	5	5	2	100	2	100
49	Tooele PD	4	15	6	4	15	15	3	75	4	100

5.1.5 Crash Timeliness – Alcohol/Drug Test Results

Label: C-T-1

Status of Improvement: Demonstrated Improvement

Related Project/System: *Crash*

Narrative

Utah will improve the Timeliness of the Crash system as measured in terms of:

The mean number of days from the date of sample arrival at the Utah Public Health Laboratory until a report is issued to law enforcement.

The result is an increase in timeliness of 6 days. The target for the next period is 21 days.

Measurements

Start Date	End Date	Mean Number of Days	Target (days)
January 1, 2014	December 31, 2014	14	14
January 1, 2015	December 31, 2015	24	14
April 1, 2016	March 31, 2017	25	14
April 1, 2017	March 31, 2018	26	14
April 1, 2018	March 31, 2019	28	14
April 1, 2019	March 31, 2020	28	14
April 1, 2020	March 31, 2021	30	25
April 1, 2021	March 31, 2022	28	25
April 1, 2022	March 31, 2023	22	21
April 1, 2023	March 31, 2024		

5.1.6 Citation Timeliness – Citations within 5 days

Label: C/A-T-2

Status of Improvement: Demonstrated a Decrease in Improvement

Related Project/System: CORIS

Narrative

Utah will strive to improve the Timeliness of the Citation system as measured in terms of:

The percentage of electronically filed citations filed with CORIS within 5 days of the date of violation.

The result is a decrease in timeliness of 1.61%. The target for the next period is 93%.

Measurements

Start Date	End Date	% Received within 5 days	Target (%)
July 1, 2013	June 30, 2014	90.4%	Not set
July 1, 2014	June 30, 2015	90.5%	Not set
July 1, 2015	June 30, 2016	91.1%	Not set
July 1, 2016	June 30, 2017	92.75%	Not set
July 1, 2017	June 30, 2018	92.55%	Not set
July 1, 2018	June 30, 2019	92.27%	Not set
July 1, 2019	June 30, 2020	93.11%	Not set
April 1, 2020	March 31, 2021	93.43%	Not Set
April 1, 2021	March 31, 2022	93.77%	93.80%
April 1, 2022	March 31, 2023	92.16%	93%
April 1, 2023	March 31, 2024		

Supporting Materials (Backup)

Current

	A	B	C	D	E	F	G	H	I	J	K	L
1	Citation Filing Statistics April 1, 2022 to March 31, 2023											
2	DISTRICT					JUSTICE						
3	year	month	delayed >5 days	total filed its	% late		year	month	delayed >5 days	total filed its	% late	
4	2022	4	1,487	29,333	5.07%		2021	4	84	1,333	6.30%	
5	2022	5	1,984	29,435	6.74%		2021	5	136	1,324	10.27%	
6	2022	6	2,496	33,336	7.49%		2021	6	124	1,756	7.06%	
7	2022	7	2,487	34,150	7.28%		2021	7	92	1,609	5.72%	
8	2022	8	2,892	33,324	8.68%		2021	8	101	1,929	5.24%	
9	2022	9	2,070	31,224	6.63%		2021	9	89	1,704	5.22%	
10	2022	10	2,690	29,646	9.07%		2021	10	114	1,629	7.00%	
11	2022	11	2,465	29,000	8.50%		2021	11	87	1,395	6.24%	
12	2022	12	2,472	26,569	9.30%		2021	12	190	1,696	11.20%	
13	2023	1	2,453	28,577	8.58%		2022	1	231	1,797	12.85%	
14	2023	2	3,068	29,391	10.44%		2022	2	166	1,607	10.33%	
15	2023	3	2,229	33,054	6.74%		2022	3	97	1,758	5.52%	
16												
17	total:		28793	367039	7.84%		total FFY21:		1511	19537	7.73%	
18												
19												
20	GRAND TOTAL		30304	386576	7.84%							
21	DIST& JUST											
22				On Time:	92.16%							
23												

Baseline

DISTRICT

JUSTICE

year	month	delayed >5 days	total filed	% late		year	month	delayed >5 days	total filed	% late
2021	4	111	1506	7.37%		2021	4	1350	25742	5.24%
2021	5	137	1413	9.70%		2021	5	1161	24884	4.67%
2021	6	143	1869	7.65%		2021	6	1769	27754	6.37%
2021	7	123	1760	6.99%		2021	7	1853	27558	6.72%
2021	8	131	1653	7.92%		2021	8	1680	25762	6.52%
2021	9	117	1494	7.83%		2021	9	1704	25920	6.57%
2021	10	104	1184	8.78%		2021	10	1564	23803	6.57%
2021	11	157	1398	11.23 %		2021	11	2276	29877	7.62%
2021	12	89	1109	8.03%		2021	12	1736	23809	7.29%

2022	1	112	1356	8.26%		2022	1	1714	26663	6.43%
2022	2	103	1464	7.04%		2022	2	1303	27612	4.72%
2022	3	82	1774	4.62%		2022	3	1686	33092	5.09%
total FFY21:		1409	17980	7.84%		total FFY21:		19796	322476	6.14%
GRAND TOTAL		21205	340456	6.23%						
DIST& JUST										
			On Time:	93.77 %						

5.1.7 Injury Surveillance Accuracy – Pre-Hospital

Label: I-A-1

Status of Improvement: Demonstrated a Decrease in Improvement

Related Project/System: Elite

Narrative

Utah will improve the Accuracy of the Pre-Hospital system as measured in terms of:

The percentage of pre-hospital records with no errors in critical fields.

The result is a decrease in accuracy of 0.96 percent. The target for the next period is 98 percent.

Measurements

Start Date	End Date	Percent Accuracy	Target (Percent)
January 1, 2017	December 31, 2017	97.48%	Not set
January 1, 2018	December 31, 2018	97.48%	Not set
January 1, 2019	December 31, 2019	98.72%	Not set
January 1, 2020	December 31, 2020	98.73%	Not set
January 1, 2021	December 31, 2021	98.52%	99%
January 1, 2022	December 31, 2022	97.56%	98%
January 1, 2023	December 31, 2023		

5.1.8 Injury Surveillance Accuracy – Trauma Registry

Label: I-A-1

Status of Improvement: Demonstrated Improvement

Related Project/System: Utah Trauma Registry

Narrative

Utah will improve the Accuracy of the Trauma Registry as measured in terms of:

The percentage of Trauma Registry records with no errors in critical fields.

The result is an increase in accuracy of 1 percent. The target for the next period is 99.5 percent.

Measurements

Start Date	End Date	Percent Accuracy	Target (Percent)
January 1, 2017	December 31, 2017	85%	Not set
January 1, 2018	December 31, 2018	86%	Not set
January 1, 2019	December 31, 2019	86%	Not set
January 1, 2020	December 31, 2020	87%	88%
January 1, 2021	December 31, 2021	98%	99%
January 1, 2022	December 31, 2022	99%	99.5%
January 1, 2023	December 31, 2023		

5.1.9 Injury Surveillance Accuracy – Emergency Room

Label: I-A-1

Status of Improvement: Demonstrated Improvement

Related Project/System: Emergency Department Encounter Database

Narrative

Utah will improve the Accuracy of the Emergency Room as measured in terms of:

The percentage of Emergency Room records with no errors in critical fields.

The result is an increase in accuracy of 1.05% percent. The target for the next period is 99 percent.

Measurements

Start Date	End Date	Percent Accuracy	Target (Percent)
January 1, 2014	December 31, 2014	24%	Not set
January 1, 2015	December 31, 2015	35%	Not set
April 1, 2016	March 31, 2017	66%	Not set
April 1, 2017	March 31, 2018	90%	Not set
April 1, 2018	March 31, 2019	93%	Not set
April 1, 2019	March 31, 2020	97.25%	Not set
April 1, 2020	March 31, 2021	98.7%	99%
April 1, 2021	March 31, 2022	98.9%	99.2%
April 1, 2022	March 31, 2023	99.95	100%
April 1, 2023	March 31, 2024		

Supporting Materials (Backup)

Current

PO BOX included

encounter_type	Total_Missing_PT_Addr	Total_Encounters	Prior_Miss_Perc	Curr_Miss_Perc	Total_Miss_Perc	Total Filled
AMB	1039	1786615	0.000564	0.000627	0.1%	99.9%
ER	7119	627602	0.011436	0.011089	1.1%	98.9%
IP	2063	273033	0.007803	0.006871	0.8%	99.2%

Baseline

Encounter_Type	Admission_Year	Admission_Quarter	Nonempty_Street_Address_Cnt	Total_Record_Cnt	Percent_of_Total_Records_with_Nonempty_Street_Address
E	2019	1	179930	181790	99.0%
E	2019	2	178172	180232	98.9%
E	2019	3	184772	187023	98.8%
E	2019	4	179479	181473	98.9%
I	2019	1	71922	72473	99.2%
I	2019	2	71431	72006	99.2%
I	2019	3	72157	72833	99.1%
I	2019	4	70709	71258	99.2%

5.1.10 Injury Surveillance Accuracy – Hospital Discharge

Label: I-A-1

Status of Improvement: Maintained Improvement

Related Project/System: Healthcare Facility Database

Narrative

Utah will improve the Accuracy of the Hospital Discharge records as measured in terms of:

The percentage of Hospital Discharge records with no errors in critical fields.

The result is an increase in accuracy of 0.01 percent. The target for the next period is 99.3 percent.

Measurements

Start Date	End Date	Percent Accuracy	Target (Percent)
January 1, 2014	December 31, 2014	36%	Not set
January 1, 2015	December 31, 2015	43%	Not set
April 1, 2016	March 31, 2017	63%	Not set
April 1, 2017	March 31, 2018	86%	Not set
April 1, 2018	March 31, 2019	97.25%	Not set
April 1, 2019	March 31, 2020	92.93%	Not set
April 1, 2020	March 31, 2021	99.1%	Not set
April 1, 2021	March 31, 2022	99.2%	99.3%
April 1, 2022	March 31, 2023	99.2%	99.3%
April 1, 2023	March 31, 2024		

Supporting Materials (Backup)

Current

PO BOX included

encounter_type Total_Missing_PT_Addr Total_Encounters Prior_Miss_Perc

Curr_Miss_Perc Total_Miss_Perc Total Filled

AMB 1039 1786615 0.0005639174914 0.0006274639561 0.1% 99.9%

ER 7119 627602 0.01143584333 0.01108947215 1.1% 98.9%

IP 2063 273033 0.007802573953 0.006871284391 0.8% 99.2%

Baseline

Encounter_Type	Admission_Year	Admission_Quarter	Nonempty_Street_Address_Cnt	Total_Record_Cnt	Percent_of_Total_Records_with_Nonempty_Street_Address
E	2019	1	179930	181790	99.0%
E	2019	2	178172	180232	98.9%
E	2019	3	184772	187023	98.8%
E	2019	4	179479	181473	98.9%
I	2019	1	71922	72473	99.2%
I	2019	2	71431	72006	99.2%
I	2019	3	72157	72833	99.1%
I	2019	4	70709	71258	99.2%

5.1.11 Crash Completeness – First Harmful Event (Unknown/Blanks)

Label: C-C-3

Status of Improvement: Maintained Improvement

Related Project/System: Traffic/UTAPS

Narrative

Utah will improve the Completeness of crash records as measured in terms of:

The percentage of unknowns or blanks in critical data elements for which unknown is not an acceptable value.

The result for First Harmful Event is a decrease in completeness of 0.00 percent. The target for the next period is 0.00 percent.

Measurements for First Harmful Event

Start Date	End Date	Percent Unknown/Blank	Target (Percent)
April 1, 2014	March 31, 2015	0.59%	Not set
April 1, 2015	March 31, 2016	0.21%	Not set
April 1, 2016	March 31, 2017	0.00%	Not set
April 1, 2017	March 31, 2018	0.00%	Not set
April 1, 2018	March 31, 2019	0.00%	Not set
April 1, 2019	March 31, 2020	0.00%	0.00%
April 1, 2020	March 31, 2021	0.01%	0.00%
April 1, 2021	March 31, 2022	0.00%	0.00%
April 1, 2022	March 31, 2023	0.00%	0.00%
April 1, 2023	March 31, 2024		

Supporting Materials (Backup)

Current

2022-2023

SELECT * FROM TRAFFIC.CRASH

WHERE VERSION = '1'

and REPORT_COMPLETED_DTIME < '01-APRIL-2023'

AND REPORT_COMPLETED_DTIME > '31-MARCH-2022'

AND FIRST_HARMFUL_EVENT_CODE ='89'

=1 out of 68,849

Baseline

2021-2022

SELECT * FROM TRAFFIC.CRASH

WHERE VERSION = '1'

and REPORT_COMPLETED_DTIME < '01-APRIL-2022'

AND REPORT_COMPLETED_DTIME > '31-MARCH-2021'

AND FIRST_HARMFUL_EVENT_CODE ='89'

=2

5.1.12 Crash Completeness – Crash Severity (Unknown/Blanks)

Label: C-C-3

Status of Improvement: Decrease in Improvement

Related Project/System: Traffic/UTAPS

Narrative

Utah will improve the Completeness of crash records as measured in terms of:

The percentage of unknowns or blanks in critical data elements for which unknown is not an acceptable value.

The result for Crash Severity is a decrease in completeness of .06 percent. The target for the next period is 0.00 percent.

Measurements for Crash Severity

Start Date	End Date	Percent Unknown/Blank	Target (Percent)
April 1, 2014	March 31, 2015	0.08%	Not set
April 1, 2015	March 31, 2016	0.00%	Not set
April 1, 2016	March 31, 2017	0.00%	Not set
April 1, 2017	March 31, 2018	0.00%	Not set
April 1, 2018	March 31, 2019	0.00%	Not set
April 1, 2019	March 31, 2020	0.00%	Not set
April 1, 2020	March 31, 2021	0.01%	Not set
April 1, 2021	March 31, 2022	0.00%	0.00%
April 1, 2022	March 31, 2023	0.06%	0.00%
April 1, 2023	March 31, 2024		

Supporting Materials (Backup)

Current

2022-2023

```
SELECT count(distinct activity_idx) FROM TRAFFIC.CRASH
WHERE VERSION = '1'
and REPORT_COMPLETED_DTIME < '01-APRIL-2023'
AND REPORT_COMPLETED_DTIME > '31-MARCH-2022'
AND SEVERITY_CODE = '89'
= 40 of 68,849 = 0.06%
```

Baseline

```

2021-2022
SELECT * FROM TRAFFIC.CRASH
WHERE VERSION = '1'
and REPORT_COMPLETED_DTTIME < '01-APRIL-2022'
AND REPORT_COMPLETED_DTTIME > '31-MARCH-2021'
AND SEVERITY_CODE = '89'
=8

```

5.1.13 Crash Completeness – Manner of Collision (Unknown/Blanks)**Label:** C-C-3**Status of Improvement:** Demonstrated Improvement**Related Project/System:** Traffic/UTAPS**Narrative**

Utah will improve the Completeness of crash records as measured in terms of:

The percentage of unknowns or blanks in critical data elements for which unknown is not an acceptable value.

The result for Manner of Collision has increased in completeness by 56.33 percent. The target for the next period is 11 percent.

Measurements for Manner of Collision

Start Date	End Date	Percent Unknown/Blank	Target (Percent)
April 1, 2014	March 31, 2015	0.24%	Not set
April 1, 2015	March 31, 2016	0.08%	Not set
April 1, 2016	March 31, 2017	0.06%	Not set
April 1, 2017	March 31, 2018	0.06%	Not set
April 1, 2018	March 31, 2019	0.05%	Not set
April 1, 2019	March 31, 2020	12.26%	Not set
April 1, 2020	March 31, 2021	56.05%	Not set
April 1, 2021	March 31, 2022	69%	58%
April 1, 2022	March 31, 2023	12.67%	11%
April 1, 2023	March 31, 2024		

Supporting Materials (Backup)

Current

2022-2023

```
SELECT count(DISTINCT ACTIVITY_IDX) FROM TRAFFIC.CRASH
WHERE VERSION = '1'
and REPORT_COMPLETED_DTTIME < '01-APRIL-2023'
AND REPORT_COMPLETED_DTTIME > '31-MARCH-2022'
AND (MANNER_OF_COLLISION_CODE ='89' OR MANNER_OF_COLLISION_CODE='99')
=8,724 out of 68,849 =12.67%
```

Baseline

2021-2022

```
SELECT count(DISTINCT ACTIVITY_IDX) FROM TRAFFIC.CRASH
WHERE VERSION = '1'
and REPORT_COMPLETED_DTTIME < '01-APRIL-2022'
AND REPORT_COMPLETED_DTTIME > '31-MARCH-2021'
AND (MANNER_OF_COLLISION_CODE ='89' OR MANNER_OF_COLLISION_CODE='99')
```

5.1.14 Roadway Completeness – Missing Route/Milepost data**Label:** R-C-1**Status of Improvement:** Maintained Improvement**Related Project/System:** ARNOLD**Narrative**

Utah will improve the Completeness of roadway records as measured in terms of:

The percentage of public roadways with complete route and milepost (LRS) data.

The result has maintained 100% in completeness. The target for the next period is 100 percent.

Start Date	End Date	Percent Complete	Target (Percent)
January 1, 2016	December 31, 2016	100%	Not set
April 1, 2016	March 31, 2017	100%	Not set
April 1, 2017	March 31, 2018	100%	Not set
April 1, 2018	March 31, 2019	100%	Not set
April 1, 2019	March 31, 2020	100%	Not set
April 1, 2020	March 31, 2021	100%	Not set
April 1, 2021	March 31, 2022	100%	100%
April 1, 2022	March 31, 2023	100%	100%
April 1, 2023	March 31, 2024		

5.1.15 Injury Surveillance Uniformity –Pre-Hospital (NEMSIS)

Label: I-U-1

Status of Improvement: Maintained Improvement

Related Project/System: Elite

Narrative

Utah will improve the Uniformity of the Pre-Hospital data as measured in terms of:

The percentage of records in the State Pre-Hospital system (Elite) that are National Emergency Medical Service Information System (NEMSIS) 3.4 compliant.

The result is maintaining complete uniformity with NEMSIS 3.4 at 100 percent. The target for the next period is 100 percent.

Measurements

Start Date	End Date	Percent Uniform	Target (percent)
January 1, 2015	December 31, 2015	100%	Not set
April 1, 2015	March 31, 2016	100%	Not set
April 1, 2016	March 31, 2017	100%	Not set
April 1, 2017	March 31, 2018	100%	Not set
April 1, 2018	March 31, 2019	100%	Not set
April 1, 2019	March 31, 2020	100%	Not set
April 1, 2020	March 31, 2021	100%	Not set
April 1, 2021	March 31, 2022	100%	100%
April 1, 2022	March 31, 2023	100%	100%
April 1, 2023	March 31, 2024		

5.1.16 Crash Uniformity – MMUCC 5

Label: C-U-1

Status of Improvement: Maintained Improvement

Related Project/System: Traffic/UTAPS

Narrative

Utah will improve the Uniformity of crash data as measured in terms of:

The percentage of MMUCC 5 compliant data elements entered into the crash database or obtained via linkage to other databases. The measurement is limited to crash data elements as designated in the MMUCC 5 data standard.

The result has maintained 82.25% in completeness. The target for the next period is 83% percent.

Measurements

Start Date	End Date	Percent Uniform	Target (percent)
April 1, 2019	March 31, 2020	66.07%	Not set
April 1, 2020	March 31, 2021	82.25%	Not set
April 1, 2021	March 31, 2022	82.25%	83%
April 1, 2022	March 31, 2023	82.25%	83%
April 1, 2023	March 31, 2024		
April 1, 2024	March 31, 2025		

Supporting Materials (Backup)

Current

Utah Mapping Scores

Generated on 18-MAR-21

Mapping Info

Guideline Name	Guideline Version	State Structure Name	Version Comment
MMUCC GUIDELINES VERSION - 5	5	Utah Motor Vehicle Crash Report Data Dictionary - 12.2020	2021 MMUCC 5 Mapping

Total Percent Mappable for All Elements

Data Structure Name	System	Percent (%)
Utah Motor Vehicle Crash Report Data Dictionary - 12.2020	Crash	82.25 %
Utah Motor Vehicle Crash Report Data Dictionary - 12.2020	Vehicle	76.97 %
Utah Motor Vehicle Crash Report Data Dictionary - 12.2020	Person	68.24 %
Utah Motor Vehicle Crash Report Data Dictionary - 12.2020	Roadway	55.6 %
Utah Motor Vehicle Crash Report Data Dictionary - 12.2020	Fatal Section	52.38 %
Utah Motor Vehicle Crash Report Data Dictionary - 12.2020	Large Vehicles & Hazardous Materials Section	36.2 %
Utah Motor Vehicle Crash Report Data Dictionary - 12.2020	Non-Motorist Section	41.39 %
Utah Motor Vehicle Crash Report Data Dictionary - 12.2020	Dynamic Data Elements	0 %

Baseline

Utah Mapping Scores

Generated on 07-FEB-20

Mapping Info

Guideline Name	Guideline Version	State Structure Name	Version Comment
MMUCC GUIDELINES VERSION - 5	5	2016 Crash Report Data Dictionary	2019 MMUCC 5 Mapping

Total Percent Mappable for All Elements

Data Structure Name	System	Percent (%)
2016 Crash Report Data Dictionary	Crash	66.07 %
2016 Crash Report Data Dictionary	Vehicle	58.95 %
2016 Crash Report Data Dictionary	Person	37.63 %
2016 Crash Report Data Dictionary	Roadway	2.08 %
2016 Crash Report Data Dictionary	Fatal Section	0 %
2016 Crash Report Data Dictionary	Large Vehicles & Hazardous Materials Section	26.99 %
2016 Crash Report Data Dictionary	Non-Motorist Section	45.23 %
2016 Crash Report Data Dictionary	Dynamic Data Elements	0 %

5.1.17 Citation Integration – Citation/Crash

Label: C/A-I-1

Status of Improvement: Demonstrated Improvement

Related Project/System: UTAPS

Narrative

Utah will improve the Integration of the crash data integrated with citation records as measured in terms of:

The percentage of records in the UTAPS database that are linked to citation data.

The result is an increase by 40% in integration. The target for the next period is 75%.

Measurements

Start Date	End Date	Percent Integrated	Target (percent)
April 1, 2019	March 31, 2020	0%	Not set
April 1, 2020	March 31, 2021	0%	Not set
April 1, 2021	March 31, 2022	0%	10%
April 1, 2022	March 31, 2023	40%	75%
April 1, 2023	March 31, 2024		

Supporting Notes:

% integrated - 40% (estimated based on the data availability and the resources at hand).

Target (percent) - 75% (deployment of data via dashboards is expected within the next few months)

This is not a direct integration of crashes to citation records, so the goal of the integration is not to identify matching events. Instead, the goal of the integration is to analyze both crashes and citations to support enhanced safety by improving resources available for planning and decision making. This data will be available to the Highway Safety Office, the Highway Patrol, and local law enforcement agencies.

5.1.18 Roadway Integration – Roadway/Crash

Label: R -I-1

Status of Improvement: Demonstrated Improvement

Related Project/System: UTAPS

Narrative

Utah will improve the Integration of the crash data integrated with roadway records as measured in terms of:

The percentage of records in the UTAPS database that are linked to roadway data.

The result is an increase in integration of 13 roadway data elements linked to crash data. The target for the next period is 16 elements.

Measurements

Start Date	End Date	Number of Elements	Target
April 1, 2019	March 31, 2020	0	Not set
April 1, 2020	March 31, 2021	10 elements	Not set
April 1, 2021	March 31, 2022	10 elements	13 elements
April 1, 2022	March 31, 2023	13 elements	16 elements
April 1, 2023	March 31, 2024		

Supporting Materials (Backup)

Current

The three new elements added in Spring 2023 include the roadway speed limit, the number of lanes, and a value for the city name from a geospatial service.

Baseline

Online web services (APIs) are currently used to link crash records to roadway and area elements during Quality Control (a post-process after record submission):

- Urban/Rural areas
- MPO (Metropolitan Planning Organization)
- UDOT Region
- Roadway Functional Class
- Roadway number in the Linear Referencing System
- Direction of travel (Positive or Negative)

- Milepost
- Segment type (Mainline, Collector, Ramp, Traffic Circle, Miscellaneous, Historic)
- Exit number
- Ramp ID
- Speed Limit
- Number of Lanes
- City name from a geospatial service

Potential Future Elements

A general list of desirable elements to be linked from the roadway system has been provided by UDOT and will be used to prioritize further integration. Elements include (but are not limited to) the following:

- Rumble strip (type)
- Right shoulder width
- Left shoulder width
- Median condition
- Number of Travel Lanes
- Number of Left Turn Lanes
- Number of Right Turn Lanes
- Bicycle Lane
- Barrier
- Sidewalk/curb & gutter
- Intersection

5.1.19 Injury Surveillance Integration –Pre-Hospital/Trauma Registry

Label: I-I-1

Status of Improvement: Maintained Improvement

Related Project/System: Elite/Utah Trauma Registry

Narrative

Utah will improve the Integration of the Trauma Registry data integrated with Pre-Hospital records as measured in terms of:

The percentage of records in the Pre-Hospital database that are linked to Trauma Registry data.

The result has maintained linkage between trauma and pre-hospital data. The target for the next period is 95 percent.

Measurements

Start Date	End Date	Percent Integrated	Target (percent)
January 1, 2015	December 31, 2015	19%	Not set
April 1, 2016	March 31, 2017	17%	Not set
April 1, 2017	March 31, 2018	15%	Not set
April 1, 2018	March 31, 2019	64%	Not set
April 1, 2019	March 31, 2020	90%	Not set
April 1, 2020	March 31, 2021	90%	Not set
April 1, 2021	March 31, 2022	94%	95%
April 1, 2022	March 31, 2023	TBD	TBD
April 1, 2023	March 31, 2024		

5.1.20 Crash/Citation Accessibility –DDACTS Mapping Tool

Label: C-X-1, C/A-X-1

Status of Improvement: Decrease in Improvement

Related Project/System: DDACTS

Narrative

Utah will improve the Accessibility of the crash and citation data as measured in terms of:

The number of users accessing and using the official DDACTS Mapping Tool.

The result is a decrease in accessibility. The target for the next period is 75 users.

Measurements

Start Date	End Date	Number of Users from L.E. Agencies	Target
April 1, 2019	March 31, 2020	0	Not set
April 1, 2020	March 31, 2021	46 (UHP)	Not set
April 1, 2021	March 31, 2022	46 (UHP)	55 (UHP)
April 1, 2022	March 31, 2023	8 (UHP)	75 (Multiple agencies)
April 1, 2023	March 31, 2024		

Notes 05/11/23: The system is currently transitioning from a single dedicated interface for UHP, to a broader interface to cover many law enforcement agencies. The number of users are expected to increase significantly, as well as the number of jurisdictions served, as soon as the transition is complete.

5.1.21 Crash Accessibility –UDOT Data Requests

Label: C-X-1

Status of Improvement: Decrease in Improvement

Related Project/System: UTRANS/ARNOLD

Narrative

Utah will improve the Accessibility of crash data as measured in terms of:

The number of users accessing UDOT's portal for data requests.

The result is a slight increase by 1 in accessibility. The target for the next period is 115 users.

Measurements

Start Date	End Date	Number of Users	Target
January 1, 2015	December 31, 2015	252	Not set
April 1, 2016	March 31, 2017	539	Not set
April 1, 2017	March 31, 2018	655	Not set
April 1, 2018	March 31, 2019	655	Not set
April 1, 2019	March 31, 2020	725	Not set
April 1, 2020	March 31, 2021	91	Not set
April 1, 2021	March 31, 2022	108	115
April 1, 2022	March 31, 2023	109	115
April 1, 2023	March 31, 2024		

6. Traffic Records Data Standards Compliance

6.1 Model Inventory of Roadway Elements (MIRE) Compliance

In this section, Utah has incorporated specific quantifiable and measurable anticipated improvements for the collection of MIRE fundamental data elements.

6.1.1 MIRE Data Collection Status

Which MIRE fundamental data elements are currently being collected and which MIRE fundamental data elements are not being collected? On which functional classes of roads are/are not they being collected?

The following table summarizes which data are currently collected, how, where they are stored, and what data gaps (orange cells) still need to be addressed.

MIRE 2.0 Number	Element	State Roads Source	State Roads Source Detail	Percent Complete	Federal Aid Roads Source	FA Source Detail	Percent Complete	Local Roads Source	Local Source Detail	Percent Complete
4.1	Type of Governmental Ownership	HPMS	'MS_ownership in R	100	HPMS	MS_ownership in R	100	HPMS	MS_ownership in R	100
4.2	Type of Governmental Ownership (Interchange)	HPMS	'MS_ownership in R	100	HPMS	MS_ownership in R	100			
8	Route Number	UDOT LRS	In R&H	100	UDOT LRS	In R&H	100			
9	Route/Street Name	R&H	agrc_alias	100	R&H	agrc_alias	100			
10	Begin Point Segment Descriptor	UDOT LRS	In R&H	100	UDOT LRS	In R&H	100	UDOT LRS	n R&H for ARNOL	100
11	End point Segment Descriptor	UDOT LRS	In R&H	100	UDOT LRS	In R&H	100	UDOT LRS	n R&H for ARNOL	100
12	Segment Identifier	Multiple	umber, UTRANS id's	100	Multiple	umber, UTRANS id'	100	Multiple	umber, UTRANS id's, or derived	
13	Segment Length	UDOT LRS	tored in the M featur	100	UDOT LRS	tored in the M featur	100			
18	Direction of Inventory	UDOT LRS	P or N direction	100	UDOT LRS	P or N direction	100			
19.1	Functional Class	R&H	functional_class	100	R&H	functional_class	100	R&H	functional_class	100
19.2	Functional Class (Interchange/Ramp)	R&H	functional_class	100	R&H	functional_class	100			
20	Rural/Urban Designation	R&H	alrs_urban_code	100	R&H	alrs_urban_code	100	R&H	alrs_urban_code	
21	Federal Aid	R&H	route_characteristics	100	R&H	oute_characteristics	100			
22	Route Type	R&H	hpms_nhs	100	R&H	hpms_nhs	100			
23	Access Control	R&H	hpms_access_contro	50	R&H	pms_access_conctr	50			
24	Surface Type	R&H	hpms_surface_type	100	R&H	hpms_surface_type	100	UTRANS	dot_surf_type	0
32	Number of Through Lanes	R&H	hpms_total_lanes	100	R&H	hpms_total_lanes	100	UTRANS	dot_thru_lanes	0
55	Median Type	Median asset layer	median_type	100	usRAP	item 27 or 24	100			
81	AADT	UDOT Traffic		100	UDOT Traffic		100	UTRANS	aadt	0
82	AADT Year	UDOT Traffic		100	UDOT Traffic		100	UTRANS	dot_aadt_year	0
93	One/Two-Way Operations	R&H	hpms_facility_type	100	R&H	hpms_facility_type	100			
110	Unique Junction Identifier	Intersections Asset	pending asset_id	100	usRAP	pending asset_id	100			
112	Location Identifier for Road 1 Crossing Point	Intersections Asset	same as centerpoint	100	usRAP	same as centerpoint	100			
113	Location Identifier for Road 2 Crossing Point	Intersections Asset	same as centerpoint	100	usRAP	same as centerpoint	100			
116	Intersection/Junction Geometry	Intersections Asset	int_type	100	usRAP	n_geometry, interse	100			
121	Intersection/Junction Traffic Control	Intersections Asset	traffic_co	100	usRAP	tion/junction_traffic	100			
129	Unique Approach Identifier	Intersections Asset	int_rt_n	100	usRAP	probably don't have	0			
130	Approach AADT	UDOT Traffic		100	UDOT Traffic		100			
131	Approach AADT Year	UDOT Traffic		100	UDOT Traffic		100			
168	Unique Interchange Identifier	Intersections Asset	pending asset_id	100	N/A	it all interchanges ai	100			
172	Interchange Type	Intersections Asset	int_type	100	N/A	it all interchanges ai	100			
177	Ramp Length	UDOT LRS	tored in the M featur	100	UDOT LRS	tored in the M featur	100			
181	Ramp AADT	UDOT Traffic		100	UDOT Traffic		100			
182	Year of Ramp AADT	UDOT Traffic		100	UDOT Traffic		100			
185	Roadway Type at Beginning Ramp Terminal	UDOT LRS		100	UDOT LRS		100			
187	Location Identifier for Roadway at Beginning Ramp Terminal	UDOT LRS		100	UDOT LRS		100			
189	Roadway Type at Ending Ramp Terminal	Derived		100	Derived		100			
191	Location Identifier for Roadway at Ending Ramp Terminal	UDOT LRS		100	UDOT LRS		100			

Which business office(s) in the State DOT collect, receive, and maintain the MIRE fundamental data elements? How are the data stored and managed?

The Asset Management, Maintenance, Pavement, HPMS, GIS, and Traffic & Safety groups oversee asset data collection and maintenance activities. Data are stored on state servers and managed by internal analysts or IT staff.

Who can access the MIRE fundamental data elements for safety analyses, and what steps are necessary to access the data? Are systems planned or already implemented to facilitate access to the data (e.g. online portals)?

All data are available through UDOT data portal at- <https://data-uplan.opendata.arcgis.com/>

Which agency/office/individual/committee(s) have authority and responsible for determining the improvements needed to achieve compliance with the MIRE fundamental data elements requirement?

This is a joint effort with the Asset Management, Maintenance, Pavement, HPMS, GIS, and Traffic & Safety groups.

6.1.2 Data Collection Methodology

For the MIRE fundamental data elements that are already being collected:

- *What methods are being used to collect the MIRE fundamental data elements?*

Bi-annual asset inventory is used for state roads.

usRAP safety protocol is used for non-state roads, this has been completed once and is planned for updates every 3 – 5 years.

ARNOLD protocols and requirements are used for base data such as segment ID's, begin/end points, and route names. This is collected and updated on a continuous basis.

- *How often do they collect the data?*

See answers above.

- *What Quality Control/Quality Assurance processes are performed before the data is entered into the database.*

Analysts and other data users review data for acceptance. Contractors providing data also perform rigorous quality checks.

6.1.3 Coordination with Other Agencies

For MIRE fundamental data elements that are NOT currently being collected:

- *Who owns the roads where the elements are not being collected (e.g., State, local government agencies, Tribal Governments, Federal Land Management Agencies, etc.)?*

Access control is incomplete for all roads of all ownership.

For federal aid roads we are missing unique approach identifiers for intersection, these will be collected via usRAP.

For roads owned by local governments we are missing surface type, through lanes, and AADT.

- *Do the agencies that own those roads collect any of the MIRE fundamental data elements?*

Many are collected or can be derived from other datasets.

- *What mechanisms are needed to share data among those agencies that collect, store, maintain, and use the MIRE fundamental data elements?*

Data is already publicly available and publicized to users via local outreach programs and other interactions.

6.1.4 Prioritization of MIRE Fundamental Data Elements Collection

For additional data that needs to be collected to meet the MIRE fundamental data element requirement:

- *What data elements will be collected in the short (1-3 years), medium (4-6 years), and long (7-9 years) term?*

All data has been collected recently or will be within the next year.

- *What collection technologies and/or methodologies are anticipated to be used?*

LiDAR asset inventory and usRAP data collection via streetview. Also statewide GIS data collaboration processes.

- *Who is responsible for collecting the data?*

UDOT and UGRC.

- *How will it be made available to the State DOT?*

In asset databases and publicly available data portals.

- *What will be the update cycle for the collection of the data?*

Every other year for state roads, every 3-5 years for non-state roads, on a continuous bases for core data such as centerlines information.

6.1.5 Costs and Resources for MIRE FDE Data Collection

What are the estimated costs, staffing, and other resource requirements to collect and maintain the MIRE fundamental data elements?

Who will incur those costs?

Total costs are approximately \$1 million to \$1.5 million annually. Costs are split between the Traffic & Safety, Maintenance, Pavement groups within UDOT, and DPS.

6.2 Model Minimum Uniform Crash Criteria (MMUCC) Compliance

Utah's crash repository is currently 82.25% MMUCC V5 compliant at the Crash data element level.

6.3 National Emergency Medical Services Information System (NEMSIS) Compliance

The Utah EMS Run Reporting System (ELITE) is currently at NEMSIS 3.4 compliant.

6.4 National Trauma Data Standard (NTDS) Compliance

The Utah Statewide Trauma Registry is maintained by the University of Utah, Intermountain Injury Control & Research Center and is National Trauma Data Standard (NTDS) compliant.

6.5 National Information Exchange Model (NIEM) Compliance

Utah's eCitation web services are National Information Exchange Model (NIEM) compliant.

7. Technical Assistance and Data System Training

7.1 Data System Training

7.1.1 Roadway

The UTRANS dataset is updated monthly (many counties provide updates less frequently) and a public version can be found on the [Open Data page](#), with additional details on our [website](#). For UDOT/UGRC, editors that work directly in the shared statewide database (UTRANS) are trained within their agency by peers and colleagues that have previously performed road data editing tasks. Editors keep an open dialog and are available to help resolve questions.

For local municipalities and counties, no formal training is passed down from the state level UTRANS editors, however, local governments train their personnel internally and UGRC offers assistance when needed, or if specific questions/issues arise. All data aggregated from the counties is run through an automated change detection process (road geometry and specific attribute changes). All road segments that are flagged with changes are then reviewed and accepted by UGRC personnel before they are included in the UTRANS database.

7.1.2 Driver

The Utah Department of Public Safety, Driver License Division is responsible for providing training and training materials for the Driver data system. The Division uses PowerPoint presentations for that train for data entry and processing roles.

7.1.3 EMS

The Bureau of Emergency Medical Services and Preparedness provides training to Utah EMS services and includes training webinars on the <https://bemsp.utah.gov> website.

Although there are different software platforms used in the State to collect EMS Run reports and there is vendor specific training provided by each, the reports are uploaded to the State. Once received, there are data validation and consistency checks performed and the results are used to provide additional focused training to correct deficiencies.

Example Course Listing

UPCOMING EVENTS

February 5	New EMS Instructor Course Date: February 5, 2021 Location: Webinar
February 26	EMS Instructor Update Seminar Date: February 26, 2021 Location: Webinar
February 26	Training Officer Update Seminar Date: February 26, 2021 Location: Webinar
February 26	Course Coordinator Update Seminar Date: February 26, 2021 Location: Webinar
April 8	New EMS Instructor Course Date: April 8, 2021 Location: Webinar

7.1.4 Crash

Utah Highway Patrol and The Highway Safety Office is responsible for crash report training in the State. They provide Intermediate and Advanced training to municipal, county, and state law enforcement.

7.1.5 Citation

There is no specific training for completing citations since citations are relatively straightforward to complete in the electronic citation modules in use within the State. Additionally, the citation data collection modules enforce edit checks and data validation rules to guide the officer to completing error free citations.

7.1.6 Vehicle

The Utah Division of Motor Vehicles provides on-the-job training to personnel entering data into the Vehicle data system. This training consists of knowledge transfer sessions and other types of peer-to-peer informal training.

7.2 Technical Assistance

7.2.1 Crash Data Improvement Program (CDIP)

The Crash Data Improvement Program was developed to provide States with a means to assess and measure the data quality of their crash databases. In 2011, Utah participated in this program and the FHWA Office of Safety conducted a review of the State's crash reporting data systems. This review resulted in recommendations that Utah has implemented to improve the State's Crash Data Production Process, the Crash Location Process, and to develop and improve data system performance monitoring.

7.2.2 NHTSA MMUCC Mapping

The State of Utah requested for NHTSA to perform a MMUCC V5 data standard mapping analysis in 2019. In 2021, Utah requested a follow up mapping analysis after updating the State's crash report to increase MMUCC V5 compliance. The results of the mapping analysis detailed Utah's improvement in MMUCC compliance in 2021.